

**COUNTY OF GREENVILLE  
HUNTERS RIDGE SUBDIVISION  
IFB #65-04/06/16**



**Greenville  
County**

**DEPARTMENT OF GENERAL SERVICES  
PROCUREMENT SERVICES DIVISION  
GREENVILLE COUNTY SQUARE  
301 UNIVERSITY RIDGE, SUITE 100  
GREENVILLE, SOUTH CAROLINA 29601**

**[www.greenvillecounty.org](http://www.greenvillecounty.org)**

**864-467-7200**



GREENVILLE COUNTY  
PROCUREMENT SERVICES DIVISION  
GREENVILLE COUNTY SQUARE  
301 UNIVERSITY RIDGE, SUITE 100  
GREENVILLE, SOUTH CAROLINA 29601-3660

NOTICE

Date: March 18, 2016

Sealed bids for HUNTERS RIDGE SUBDIVISION subject to the conditions and all provisions set forth herein and attached, will be received at this office until 3:00 P.M., EDT, APRIL 6, 2016, then publicly opened. The commodities and/or services must be furnished as described and specified to Greenville County. The prices on this bid will include all costs of transportation to the required destination.

SHOW THIS NUMBER ON ENVELOPE

IFB No. #65-04/06/16

PROCUREMENT SERVICES DIVISION

Director

COMMODITIES OR SERVICES

GREENVILLE COUNTY IS SEEKING SEALED BIDS FROM VENDORS FOR SERVICES TO BRING HUNTERS RIDGE SUBDIVISION TO GREENVILLE COUNTY LAND DEVELOPMENT REGULATION STANDARDS.

BIDS MUST BE SUBMITTED ON THE BID SHEET (PAGE 4) WITH THE TOTAL BEING LISTED AT THE BOTTOM. BID SHEET MUST BE SIGNED. QUESTIONNAIRE MUST BE COMPLETED AND SIGNED. ALL TAXES ON ANY ITEM THAT GREENVILLE COUNTY MAY BE REQUIRED TO PAY MUST BE SHOWN SEPARATELY, NOT INCLUDED IN THE PRICE BID.

PLEASE SUBMIT ONE (1) ORIGINAL AND THREE (3) COPIES OF YOUR BID.

QUESTIONS CONCERNING THE IFB ARE TO BE SUBMITTED IN WRITING TO CAL PILGRIM, BUYER, GREENVILLE COUNTY PROCUREMENT SERVICES DIVISION, SUITE 100, 301 UNIVERSITY RIDGE, GREENVILLE, SC 29601, BY FAX (864) 467-7304 OR EMAIL [cpilgrim@greenvillecounty.org](mailto:cpilgrim@greenvillecounty.org) NO LATER THAN 5:00 P.M., EDT, MARCH 30, 2016.

PLEASE SIGN THE FOLLOWING PAGE. FAILURE TO SIGN WILL VOID YOUR BID. PLEASE MARK YOUR ENVELOPE TO READ:

IFB #65-04/06/16.

NOTICE TO BIDDERS: All taxes on any item that Greenville County may be required to pay must be shown separately, not included in the price bid.

**INSTRUCTIONS TO RESPONDENTS**  
**IFB #65-04/06/16 HUNTERS RIDGE SUBDIVISION**

1. Unless otherwise required, submit only one (1) original and three (3) copies of each RFI/RFQ/IFB/Proposals.
2. RFI/RFQ/IFB/Proposals, amendments thereto or withdrawal requests received after the time advertised for opening will be void regardless of when they were mailed.
3. Quote prices on units specified with packing included.
4. Attach complete specifications for and permitted substitutions offered, or when amplification is desirable or necessary.
5. If specifications or descriptive papers are submitted with RFI/RFQ/IFB/Proposals, enter respondents name thereon.
6. If the article bid upon has a trade name or brand, show same in the RFI/RFQ/IFB/proposal.
7. When required, furnish samples, free of expense, prior to opening of RFI/RFQ/IFB/Proposals. Label each sample with respondents name and the item number. Should you wish samples returned, at your expense, when not destroyed in tests, make request for return within 10 days following bid/proposal opening.
8. Show delivery time required after order is received (see below).
9. Address and mark bids/proposals as indicated in the notice.

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**CONDITIONS**

1. The County Agency or Institution submitting this notice reserves the right to reject any and all RFI/RFQ/IFB/Proposals, and to waive all technicalities.
2. Unit prices will govern over extended prices, unless otherwise stated in notice.
3. Time in connection with discount offered will be computed from date of delivery of commodities to carrier, when inspecting and acceptance is at point of origin; or date of delivery at destination; or if laboratory inspection is made part of bid, from date of laboratory report.
4. In case of default of contractor, Greenville County reserves the right to purchase any or all items in default on open market, charging contractor with any excessive costs.
5. All materials and products offered must be guaranteed to meet the requirements of the specifications indicated, given or referred to.
6. Prices bid must be based upon payment in thirty (30) days. Discounts for payment in less than thirty (30) days will not be considered in making award.
7. The right is reserved, in case of tie bids, to make award considered to be most advantageous to Greenville County.
8. The right is reserved to reject any RFI/RFQ/IFB/Proposal in which the delivery time indicated is considered sufficient to delay the operation for which the commodity is intended.
9. Unless otherwise indicated by County Agency or Institution submitting this notice, prices must be firm.

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**RFI/RFQ/IFB/PROPOSAL**

(DATE) \_\_\_\_\_

In compliance with invitation, and subject to all conditions, thereof, the undersigned offers and agrees, if this RFI/RFQ/IFB/Proposal is accepted within \_\_\_\_\_ days from date of opening, furnish any or all items quoted on at prices as set forth after the item and unless otherwise specified, within \_\_\_\_\_ days after receipt of order, delivered, all transportation costs included,

Discount will be allowed as follows: 30 calendar days \_\_\_\_\_ %.

FIRM NAME \_\_\_\_\_ ADDRESS \_\_\_\_\_

BY \_\_\_\_\_  
(RFI/RFQ/IFB/PROPOSAL MUST BE SIGNED IN WRITING)

PRINT NAME \_\_\_\_\_

TITLE \_\_\_\_\_

PHONE \_\_\_\_\_ FAX \_\_\_\_\_



## HUNTERS RIDGE SUBDIVISION

IFB #65-04/06/16

### SCHEDULE

March 24, 2016

A Pre-Bid meeting and site visit will be held at 9:00 A.M., EDT, in the Procurement Services Division office located at 301 University Ridge, Suite 100, Greenville, SC 29601.

March 30, 2016

All questions must be submitted in writing to Cal Pilgrim, Buyer, Procurement Services Division, 301 University Ridge, Suite 100, Greenville, SC 29601, by Fax (864)467-7304, or by email [cpilgrim@greenvillecounty.org](mailto:cpilgrim@greenvillecounty.org), by 5:00 P.M., EDT

April 6, 2016

Bids must be delivered to the Procurement Services Division, 301 University Ridge, Suite 100, Greenville, SC 29601 no later than 3:00 P.M. EDT

April 6 – April 13, 2016

Review of Bids

April 13, 2016

Tentative Date of Award

April 13 – April 27, 2016

Contract Negotiations

April 27, 2016

Issue Notice to Proceed



## HUNTERS RIDGE SUBDIVISION

IFB #65-04/06/16

### ITEMIZED BID SHEET

Line	Item	QTY	Unit	Unit \$	Total \$
	<b>Hunters Ridge</b>				
1	Mobilization	1	LS		
	<b>Storm Drainage System</b>				
2	Flush storm drain system	1	LS		
	<b>Roadway/Infrastructure</b>				
3	Install steps in catch basins	40	EA		
4	Existing asphalt reclamation	6,589	SY		
5	Testing & quality control for reclamation	1	LS		
6	Install 1.5" final surface course of asphalt	6,589	SY		
7	Curb removal and replacement	200	LF		
8	Curb crack repairs	103	EA		
	<b>Storm Water</b>				
9	Stabilize pond(s)	2	LS		
10	Mow pond(s)	2	LS		
	<b>Engineering</b>				
11	Close out documentation	1	LS		
	<b>TOTAL</b>				

\_\_\_\_\_  
Authorized Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Company



**HUNTERS RIDGE SUBDIVISION**  
**IFB #65-04/06/16**

**I. Introduction**

Greenville County is seeking sealed bids from vendors for services to bring Hunters Ridge Subdivision to Greenville County Land Development Regulation Standards. The project is located off Foot Hills Road in Greenville County, South Carolina.

**II. Scope of Work**

The main purpose of the project is to bring the subdivision to county standards and to be accepted into the county road inventory. The Contractor shall coordinate with utility companies and property owners prior to the start of construction. The work varies, however, overall the required work consists of removal and replacement of damaged rolled curb, reclamation of the existing asphalt, and installing asphalt surface to bring the subdivision in to the county's standards. All construction shall conform to Greenville County Land Development Regulations, SCDOT Specifications and match any existing work. **This work is a unit price project and quantities are estimated.** Contractors are required to visit the site to ensure a complete understanding of the scope of work. The Contractor shall be required to adjust any utility valves and or manhole lids as needed. The Contractor shall limit the disturbed area and will be responsible for restoring disturbed areas to its original condition or better. The project includes as a minimum, the following:

- Remove and dispose of concrete curb as determined in the field by the County Inspector. New curb is to be installed to match the existing and as direct by County Inspector.
- Perform curb crack repairs.
- Perform asphalt reclamation on existing roadway.
- Install 1.5" final surface course.
- Repair designated pavements using the Cold-In-Place Recycling (Curbed and Non-Curbed Roads) method and install the final 1.5" final surface coat.
- Flush the storm drain system and install steps in the catch basins as required per Greenville County standards.
- Mow the existing storm water ponds and outfall areas, repair any slope erosion and stabilize the bare areas in the existing detention ponds.
- Remove all temporary BMPs and remove and dispose of the cumulated silt as directed by the County Engineer.
- Adjust any utility valves and/or manhole lids as needed.
- Provide all close out documentation for the roads and stormwater features.
- Restore all disturbed areas to their original condition or better, once work is completed.
- The County reserves the right to increase or decrease quantities as needed. All quantities shown in this IFB are estimated/

- Additional items included in the project may or may not be shown on the project design plans.

### III. Construction Specifications

#### A. Project Duration

The contractor shall be allowed 90 calendar days, excluding work on Sundays, to complete this project.

#### B. Reconstruction – Cold In-Place Recycling

##### 1. Pavement Reconstruction

###### a. **Description**

Pavements designated for reconstruction shall be repaired using the Cold In-Place Recycling (Curbed & Non Curbed Roads) method. The Contractor shall furnish all equipment, tools, labor and any other appurtenances necessary to complete the work within the contract time frame. Application rates will be as identified per the road evaluation. At the completion of the project, all work shall have been performed and finished in a clean, neat, attractive and workmanlike manner, in a safe condition and in compliance with all applicable laws.

###### b. **Equipment**

Machinery having a function similar to the BOMAG MPH 100 RECYCLER WITH THE ALPS II LIQUID ADDITIVE SYSTEM, CMI RS-650 WITH LIQUID ADDITIVE SYSTEM or the CATERPILLAR R-250 RECLAIMER WITH THE CATERPILLAR LIQUID ADDITIVE EQUIPMENT, is pre-approved for use.

Alternate means of reclamation, pulverizing, and additive introduction (using conventional rippers, motor graders, tractors, and water trucks) are acceptable, provided a uniform mix of particles and that the method of additive introduction is uniform and measurable, are achieved prior to compaction. All methods are subject to proof of equivalency, (i.e., gradation test data of crushed material).

###### c. **Materials**

The materials to be used in the reconstructed base shall be in most cases the existing pavement and base material. The pulverized base material shall meet the following gradation requirements:

Sieve Size	%Passing
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1-1/4"	98
1"	90-100

**i. Stone**

Any additional stone needed under this specification shall meet the requirements of Section 305, Graded Aggregate Base Course, as defined in the SCDOT Standard Specifications for Highway Construction, Latest Edition, as revised/amended. At least fifteen (15) days prior to beginning work, the contractor shall furnish the County Engineer with gradation test results of the stone intended for use.

**ii. Emulsion**

Liquid asphalt emulsion added shall provide an even distribution and shall not break prematurely. It shall provide the mixture with sufficient stability. *An example of emulsion criteria setup that has been used and found tentatively acceptable to Greenville County is included in Paragraph G on Page 28.* As a minimum all emulsions applicable must meet SCDOT specifications. Other equivalent emulsions may be substituted provided, laboratory analysis, (by an independent testing firm confirming compatibility and suitability) can be certified in writing to the County Engineer at least fifteen days prior to beginning work.

**d. Construction Requirements**

**i. Weather Limitations**

Recycling operations shall not begin until the atmospheric temperature is 50°F and rising. Recycling operations shall be discontinued when the temperature is 55°F and falling. Recycling operations shall not be performed when the weather is foggy or rainy, or when weather conditions are such that the proper mixing, spreading and compacting of the recycled materials cannot be accomplished. Recycled pavement damaged by precipitation shall be reprocessed or repaired by other methods approved by the County Engineer, at the Contractor's expense.

**ii. Recycling**

Recycling existing pavement and base material, including grinding, ripping or scarifying, mixing of milled RAP should be done as a continuous operation to its full in-place depth, with the addition of new emulsified asphalt and/or a recycling or rejuvenating agent, possibly also with virgin aggregate. Establish a base material depth of not less than four (4) inches or more than six (6) inches and extending where possible, eighteen (18) inches beyond the existing



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pavement edge. Where the depth of the existing pavement and base material is less than four (4) inches, the Contractor shall add virgin aggregate to the recycled mix to an increased depth of not less than four (4) inches or not more than six (6) inches, unless approved by the County Engineer. Geotechnical reports will be required.

**iii. Mixing**

Following the initial pulverization of the existing pavement section, additional crusher run stone aggregate required, shall be added and mixed with the prescribed equipment while adding liquid asphalt emulsion to the mixture at a per road design rate and/or at percent rate by weight (approved by the County Engineer) of new material.

**iv. Compaction**

The recycled mix shall be compacted in general compliance with Section 208 of the SCDOT Specifications for Subgrade. In lieu of density testing, a proof roll of the recycled base material may be used.

The proof roll may incorporate the use of a fully loaded tandem axle dump truck or similar piece of pneumatic tired equipment moving in an overlapping pattern making two complete passes over the entire area. Area that deflects or "pumps" beneath the passage of the equipment will be reconditioned at no additional cost to the County. Any pre-existing condition due to the sub-base soil may be eligible for payment for undercutting and/or repair of sub-base.

**v. Testing**

The asphalt content of the recycled mix shall be determined by a testing laboratory and approved by the County Engineer. Payment for these tests will be the responsibility of the Contractor. Asphalt content testing shall be in accordance with ASTM D-2172 "Standard Test Methods for Quantitative Extraction of Bituminous from Bituminous Paving Mixtures". The testing frequency shall be one test for every 1,500 yd<sup>2</sup> of recycled surface, but in no case shall the frequency of testing be less than one test per road. In case of a failing test, two additional tests may be taken within the same 1,500 yd<sup>2</sup> test section. If the averages of the three tests meet the minimum, then the area in question will not require a rework.

If the average of the three tests does not meet the minimum asphalt content, corrective actions will be taken at no additional cost to the County. Asphalt content reports must be submitted and approved by the County Engineer prior to recycled roads being surfaced.

Whether or not an appreciable differential exists between the finished grade elevations of driveways and the new roadway surface, all driveway tie-ins shall be made for the entire width and length not exceeding the road right of way. No drop offs will be allowed. No

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driveway tie-in will be made which exceeds the given road right-of-way limits.

**vi. Maximum Curing Time**

Unless otherwise noted or directed by the County Engineer, all cold in-place recycled (reconstructed) roads will have a finished asphalt surface course applied within twenty-one (21) days of approval of the asphalt content reports.

**e. Method of Measurement and Payment**

The unit bid price for all items incidental to the Reconstruction (Cold in-Place Recycle) Road Program shall include an amount sufficient to compensate the Contractor for providing all labor, materials, equipment, tool, transportation, supplies, and testing required to complete in-place. The work shall be in accordance with the plans, specifications and terms of this contract.

Measurement and payment for work conducted herein specified shall be the total number of yd<sup>2</sup> for cold in-place recycling of roads complete in-place; the total number of gallons used for liquid asphalt emulsion and for crusher run stone, the total number of tons used complete in-place.

**2. Hot Laid Asphalt Concrete Surface/Binder**

**a. Description**

This work shall consist of overlaying the cold in-place recycled pavements with an asphalt wearing course of Hot Laid Asphaltic Concrete, Surface Course Type C, and/or Binder Course, in accordance with all applicable portions of the SCDOT Standard Specifications. The Contractor shall furnish all equipment, tools, labor, and any other appurtenances necessary to complete the work within the contract time frame. Additional preparatory work may be required when directed by the County Engineer. Application rates will be identified per road evaluation reports. At the completion of the project all work shall have been performed and finished in a clean, neat, attractive and workmanlike manner in a safe condition and in compliance with all applicable laws.

**b. Materials**

The applicable portions of Section 400, Asphalt Pavements of the SCDOT Standard Specifications for Highway Construction, as revised/amended, shall apply to this contract.

At least fifteen (15) days prior to the beginning of the work, the Contractor shall furnish to the County Engineer the SCDOT approved Job Mix Formula(s) for the materials he intends to supply in conjunction with the performance of this contract.

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The Contractor may incorporate Recycled Asphalt Pavement (RAP), up to a maximum of ten (10%) percent, into asphalt pavement surface and base courses. Job Mix Formula(s) containing RAP may be designed and certified by an Independent Engineering Firm for approval by the County Engineer when approval by the SCDOT cannot be readily secured. Job Mix Formula(s) with a higher rate of (10%) incorporated RAP may be used with County Engineer authorization. The Contractor may submit documents (*written proof*) of the cost effectiveness of using a Job Mix Formula with an increased RAP content and apply that cost savings to reduce the (virgin) asphalt concrete mix unit bid price. However, no design Job Mix Formula used in the completion of this contract shall exceed the maximum RAP incorporated content established by the County Engineer. All job mix formula(s) must be submitted by an independent engineering firm and have a stamp of a Professional Engineer registered in the State of South Carolina.

**c. Construction Requirements**

All work shall include, but is not limited to, the cleaning, preparation and recycling of the existing pavement; application/compaction of crusher run stone/asphaltic concrete; application of an emulsified asphalt as a binding agent; regrading, reshaping to typical crown section; testing, and other work as deemed appropriate.

The application rate of hot laid asphaltic concrete, surface course, Type C, for each road herein designated part of the Road Improvement Program shall be per the evaluation report. The average application rate for any road shall be not less than 165 lbs / yd<sup>2</sup> or more than 385 lbs/yd<sup>2</sup> for surface courses. The finished compacted in-place thickness shall be in accordance with the requirements outlined per each roadway evaluation report.

The application rate for hot laid asphaltic concrete binder course, shall be sufficient to provide a finished compacted in-place thickness of three (3.0) inches for thin applications and five (5.0) inches for thick applications, in accordance with the requirements outlined for each roadway evaluation. The application rate may be exceeded for a roadway only upon pre-authorization of the County Engineer or his/her representative.

An emulsified asphalt tack coat shall be used were applicable. Additional preparatory work may be required when directed by the County Engineer.

Asphaltic concrete surface and binder courses shall be compacted to a density of at least 95% in accordance with the Marshall Method of Testing (as determined by ASTM D-1559-89) or a test strip determination at the discretion of the County Engineer.

Unless otherwise directed, all driveways shall be tied-in in such a manner as not to exceed the road right-of-way for their full width and length. The maximum average application rate for any road shall not exceed 385 lbs / yd<sup>2</sup>

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for surface courses, and 550 lbs / yd<sup>2</sup> for binder courses.

**d. Price Adjustment for Out-of-Permitted Variation**

Adjustments in the unit price for the approved job mix will be made in accordance with *Appendix D, Exhibit 2*, attached hereto. Adjustments shall apply when the average of the day's production test results for a particular sieve or asphalt content is outside the tolerances permitted for Hot Laid Sand Asphalt Base, Binder, and Surface Courses for the average of the number of test results obtained in the day's production. For lots that are out of tolerances on two or more sieves, the unit bid price will be adjusted from the one that is out of tolerance, giving the largest reduction.

For lots that are out of tolerances on asphalt content and gradation, the adjusted unit bid price for the lot shall be determined by multiplying the contract bid price in series by the percentage of payment for asphalt content and the least percentage of payment for gradation.

Where the adjusted unit price is computed to be less than 90%, the County Engineer shall determine the amount to be paid for the work.

When testing indicates an asphaltic concrete mix does not meet specification, adjustments must be made immediately and at least two additional samples taken and tested for each sample that does not meet specifications. Test reports must be stamped and signed by a Registered Professional Engineer, and sent directly to the County Engineer by the laboratory.

**e. Field Testing**

The Contractor shall be responsible for monitoring the compaction process and making adjustments in equipment and/or roller pattern so as to meet the specified in-place density requirements. If, in the judgment of the County Engineer, a weak subbase or poor subgrade condition results in a density lower than the minimum specified, maximum practical density lower than that specified may be established by the County Engineer.

The Contractor shall be responsible for density testing to ensure all compacted asphaltic concrete surface and binder courses meet and/or exceed 95% in accordance with the Marshall Method of Testing (as determined by ASTM D-1559-89), or a test strip determination at the discretion of the County Engineer.

**f. Method of Measurement and Payment**

The unit contract price for Hot Laid Asphalt Concrete shall be on a per ton basis. The unit contract price shall include an amount sufficient to compensate the Contractor for providing all materials complete in place, tools, testing, and performing all labor necessary for the complete asphalt overlay process of various roads as authorized by the County Engineer.

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All work shall include, but is not limited to, the cleaning and preparation of the existing pavement, application of tack coat, application/compaction of asphaltic materials/stone, testing, and other work as appropriate. All work shall be performed in a neat, workmanlike manner.

**C. UNIMPROVED DIRT/GRAVEL ROAD PAVING**

**1. Stabilized Aggregate Base Course**

**a. Description**

It is anticipated that sufficient aggregate, crusher run stone, will be in-place on each unimproved surface (gravel/dirt) road identified for improvement. The anticipated stone base quantity will allow the Contractor to have sufficient material to set up an aggregate base with a minimum depth of four (4) inches and not to exceed six (6) inches, compacted in-place per the road evaluation report. However, where insufficient materials exist on a per-road basis, the Contractor will haul in aggregate meeting the gradation requirements for Type 1 or CR-14 aggregates. The Contractor shall furnish all equipment, tools, labor, and any other appurtenances necessary to complete the work within the contract time frame. Application rates will be identified per road evaluations. At the completion of the project all work shall have been performed and finished in a clean, neat, attractive and workmanlike manner, in a safe condition and in compliance with all applicable laws.

**b. Materials**

Stabilized aggregate base course shall comply with Section 305 of the 2007 SCDOT Standard Specifications for "Type 1" aggregates, or CR-14 quarried from SCDOT certified locations.

Prime coat shall be in accordance with Section 305.4.6 of the 2007 edition of the SCDOT Standard Specifications as revised/amended.

**c. Construction Requirements**

Contractor is to fine grade existing unimproved surface (dirt/gravel) roadway, establish a typical crown section, horizontal alignment, and/or vertical alignment (if applicable).

Where applicable, the Contractor shall install stabilized aggregate base course to obtain an in-place depth not to exceed six (6) inches, after proper compaction, in accordance with the provisions of Section 305 (2007 Edition of the SCDOT Standard Specifications, as revised/amended).

Unless otherwise directed by the County Engineer, all roads shall be treated with a prime coat prior to paving. The base shall be cleaned of all mud, dirt, dust and caked or loose material of any description by brooming, blowing, or other methods. The base shall be dry before prime is applied. The rate of

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application of the prime shall be from 0.25 to 0.30 gal/yd<sup>2</sup>.

After the prime coat has been applied and before local traffic flow is restored, preventive methods shall be initiated to prevent prime coat material pickup by vehicular tires. The Contractor shall apply sand or some other approved granular material as a cover as directed by the County Engineer. The cost of furnishing this material and performing this work shall be included in the unit contract price of the unimproved surface (dirt/gravel) road paving.

Unless otherwise directed by the County Engineer, all driveways shall be prepared for installation of asphaltic concrete surface for their full width and length not exceeding the road right-of-way.

**d. Method of Measurement and Payment**

The unit contract price for all items incidental to Unimproved Dirt/Gravel Road Paving, shall include an amount sufficient to compensate the Contractor for providing all labor, materials, equipment, tools, transportation, supplies and testing required to complete in-place the work in accordance with the plans, specifications and terms of this contract.

Measurement and payment for stabilized aggregate base course set-up, work conducted herein specified shall be the number of yd<sup>2</sup> complete in-place and per ton of aggregate base material supplied as documented by material receipts (weight tickets).

**2. Hot Laid Asphalt Concrete Surface**

**a. Description**

This work shall consist of overlaying stabilized aggregate base (crusher run stone) with an asphalt wearing surface course of Hot Laid Asphaltic Concrete, Surface Course Type 3, in accordance with all applicable portions of the SCDOT Standard Specifications for Highway Construction. The Contractor shall furnish all equipment, tools, labor and any other appurtenances necessary to complete the work within the contract time frame. Application rates will be identified per road evaluations. At the completion of the project all work shall have been performed and finished in a clean, neat, attractive and workmanlike manner, in a safe condition and in compliance with all applicable laws.

**b. Materials**

Bituminous Pavement: The applicable portions of Section 400, Bituminous Pavements of the "SCDOT Standard Specifications for Highway Construction, Latest Edition", as revised/amended, and Supplemental Specification "Hot Mix Asphalt Quality Assurance Specification," dated January 19, 2003 shall apply to this contract.

At least fifteen (15) days prior to the beginning of the work, the Contractor

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shall furnish to the County Engineer the SCDOT approved Job Mix Formula(s) for the materials he/she intends to supply in conjunction with the performance of this contract.

The Contractor may incorporate Recycled Asphalt Pavements (RAP), up to a maximum of ten (10%) percent, into asphalt pavement surface and base courses. Job Mix Formula(s) containing RAP may be designed and certified by an Independent Engineering Firm acceptable to the County Engineer when SCDOT approval cannot be readily secured. Job Mix Formula(s) with a higher rate of (10%) RAP incorporated may be used, with authorization from the County Engineer. The Contractor may submit documents (*written proof*) of the cost effectiveness of using a Job Mix Formula with an increased RAP content and apply that savings to reduce the (virgin) asphaltic concrete mix unit bid price. However, no design Job Mix Formula used in the completion of this contract shall exceed the maximum RAP incorporated content established by the County Engineer. All job mix formula(s) must be submitted by an independent engineering firm and have a stamp of a Professional Engineer registered in the State of South Carolina.

**c. Construction Requirements**

All work shall include, but is not limited to, the cleaning and preparation of the existing aggregate stone base, application of prime coat, application/compaction of crusher run stone/asphaltic concrete materials, testing, and other work as deemed appropriate.

The application rate for hot laid asphaltic concrete surface course, Type 3, for each road herein designated part of the Road Improvement Program shall be per the evaluation report. The average application rate for any road shall be not less than 165 lbs/yd<sup>2</sup> or more than 385 lbs/yd<sup>2</sup> for surface courses. The finished compacted in-place thickness shall be in accordance with the requirements outlined per each roadway evaluation. The application rate may be decreased/increased for a roadway only upon pre-authorization of the County Engineer.

Asphaltic surface and binder courses shall be compacted to a density of at least 95% in accordance with the Marshall Method of Testing (as determined by ASTM D-1559-89), or a test strip determination at the discretion of the County Engineer. SCDOT testing procedures are acceptable to the County.

Unless otherwise directed, all driveways shall be tied in for their full width and length, not exceeding the road right-of-way.

Additional preparatory work may be required when directed by the County Engineer.

**d. Price Adjustment for Out-of-Permitted Variation**

Price adjustments will be made in accordance with SCDOT Supplemental

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Specification "Hot Mix Asphalt Quality Assurance Specification" dated January 19, 2003, Section 202.1, 302.2, and 402, subject to revisions

When the testing indicates that the mix does not meet specification, adjustments must be made immediately and at least two additional samples taken and tested for each sample that does not meet specifications. Test reports must be stamped and signed by a Registered Professional Engineer, and sent directly to the County Engineer by the laboratory.

**e. Method of Measurement and Payment**

The unit contract price for all items incidental to Unimproved Dirt/Gravel Road Paving, shall include an amount sufficient to compensate the Contractor for providing all labor, materials, equipment, tools, transportation, supplies, and testing required to complete in-place, the work in accordance with the plans, specifications and terms of this contract.

Measurement and payment for work conducted herein specified shall be the number of tons of hot laid asphaltic concrete surface material complete in-place, as documented by material receipts (weight tickets).

**3. Field Testing**

The Contractor shall be responsible for monitoring the compaction process and will be responsible for making adjustments in equipment and/or roller pattern so as to meet the specified in-place density requirements. If, in the judgment of the County Engineer, a weak subbase or poor subgrade condition results in a density lower than the minimum specified, then a maximum practical density lower than that specified may be established by the County Engineer.

The contractor shall, at no expense to the County, be responsible for density testing to ensure all aggregate base compacted meet or exceed 95% of the standard proctor maximum dry density.

The thickness of the completed base course shall be measured at staggered intervals not to exceed 250 feet. The depth measurement shall be made by test holes through the base course. When the base course is deficient by more than one-half inch, the Contractor shall scarify, apply additional base material, grade, and compact such areas, as directed by the County Engineer.

Aggregate base (macadam base) course shall be sampled and tested by the Contractor at intervals not to exceed 500 feet for two lane roads, with at least one test per road. The base material shall be sampled promptly after it has been mixed, laid down, and after initial compaction operations have begun. The rate of cores to be tested will be one core per 500 feet per road. In those instances where the road is less than 500 feet in length, the rate will be one core per road. The material shall be sampled by taking three portions for the full depth of the layer, one on the center and one approximately two feet from each edge of the base. The frequency may be reduced at the discretion



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of the County Engineer.

Testing results shall be submitted to the County Engineer prior to surfacing operations.

**D. GEOTEXTILE FABRIC**

**1. Full Depth Repair**

**a. Description**

Repair high distress areas of existing pavements with full depth pavement repairs as shown in Attachment One. Pavement repairs will be made to all distressed areas.

**b. Construction Process**

The deteriorated pavement (*distressed area*) shall be removed to the width and length indicated by the road evaluation report, with the face of the cut being straight and vertical. The pavement shall be removed to the specified depth. In the event unstable material is encountered at this point, then such additional material shall be removed as directed by the County Engineer. The removed material in excess of the specified depth shall be replaced (backfilled) with crushed stone and/or asphaltic concrete binder mix thoroughly compacted in layers with vibratory compactors. Prior to placing asphalt patch material in the excavated area, the existing asphalt pavement perimeter of the excavated area shall be thoroughly tacked. The patch shall then be backfilled with the asphaltic concrete binder material placed in layers not exceeding 3 inches, and each layer thoroughly compacted with a mechanical vibratory compactor. The patch material shall meet all requirements established for those mixes designed for this contract. The work shall be conducted in a timely manner such that the distressed areas are removed and repairs completed in the same workday, and the roadway opened to public traffic prior to ceasing daily operations. No excavated (*removed*) area shall remain open (*not repaired*) after daily operations have ceased. The ride quality of the finished patch shall be smooth.

**c. Measurement and Payment**

The square yards of pavement repairs that may be required are estimated. Estimates are based on field measurements of distressed pavement sections. Actual pay quantities may vary. The quantity to be measured for payment shall be the number of square yards of full depth asphalt pavement patching completed and accepted. The price and payment shall be full compensation for furnishing all materials including asphaltic concrete plant mix (binder, surface), asphalt cement, excavating and disposing of all materials, labor, equipment, tools and incidentals necessary to safely and effectively complete the work as indicated in this specification.

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Any crushed stone necessary for backfilling full-depth areas in excess of the

specified five (5) inches maximum repair depth shall be measured and paid for at the contract price for maintenance stone.

Construction equipment designed to provide mechanical compaction shall be used on all full-depth repair areas (i.e. mechanical hand tamps, walk behind vibratory rollers, etc.). The use of a motor-grader blade/backhoe/grade-all (bucket, tires) as a compaction method will not be permitted.

**d. Testing Requirements**

The subgrade for full depth repairs will be compacted to at least 90% determined by the One-point Method using a 5.5-pound hammer with a 12-inch drop in general accordance with AASHTO T-99. Field moisture tests will be accepted in lieu of the AASHTO method of 24-hour tests for moisture content. In section of the full depth repair, in place density will be determined with the nuclear gauge at randomly selected locations at least one foot from any unsupported edge. In place density shall be at least 95%. The frequency of tests will be one (1) test per every 2000 ft<sup>2</sup> of Full Depth Repair or a minimum of one (1) test per road, whichever is greater.

**2. Pavement Reinforcement Fabric**

**a. Description**

This work shall consist of the application of asphalt cement (acting as an adhesion agent) and overlay the rehabilitated and existing pavement with a non-woven road construction fabric in accordance with plans, manufacturer recommendations, specifications and terms of this contract. The Contractor shall furnish all equipment, tools, labor, and any other appurtenances necessary to complete the work within the contract time frame. Application rates will be identified per road evaluations. All work shall be performed in a neat and workmanlike manner. Additional preparatory work may be required when directed by the County Engineer.

**b. Materials**

Install pavement reinforcement fabric over areas where AC-20 is applied. The non-woven pavement reinforcement fabric shall be constructed of long chain synthetic polymers composed of at least 85% of polypropylene, polyesters and/or polyamides by weight. It shall be resistant to chemical attack, mildew and rot. It shall meet as a minimum, but is not limited to, the following physical requirements:

PROPERTY	REQUIREMENTS *	TEST METHOD
Tensile Strength (lbs.)	80 (minimum)	ASTM D-4632
Elongation at Break (%)	50 (minimum)	ASTM D-4632
Asphalt Retention (gal/yd <sup>2</sup> )	0.2 (minimum)	Texas DOT Spec # 3099

Melting Point (degrees F)	300 or greater	ASTM D-276
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\*Minimum. ASTM D-4354 gives guidance on the number of rolls to sample from a given size lot. ASTM D-4652 and Texas DOT Spec. #3099 provide guidance on how many individual tests (specimens) shall be taken per roll to represent a test value. A value is obtained by sampling and testing the number of specimens in the machine and cross-machine directions required by the appropriate test method. The average of all the specimens for the machine direction represent a value as does the average of all the specimens for the cross-machine direction. All values shall exceed the minimum values shown in the table. This fabric shall be suitable for pavement overlay applications.

**c. Construction Requirements**

The following methods generally describe proper installation procedures for non-woven pavement reinforcement fabric. Actual installation procedures shall follow manufacturer's recommendations and are subject to approval of the County Engineer.

Apply 0.21-0.25 gal/yd<sup>2</sup> asphalt cement (AC-20) to all areas. There shall be no exceptions granted for alternates to AC-20 as specified.

No roadway with in-place paving fabric shall remain uncovered (not resurfaced) for more than two (2) weeks. Fabric may be "pieced" to accommodate unusual roadway configuration; however, all "pieced" sections shall overlap a minimum of three (3) inches and shall be properly tacked.

For the absorption of excess liquid asphalt cement (AC-20), apply sand at a rate of 4 to 6 lbs/yd<sup>2</sup> if required. The cost for required sand applications is to be inclusive of the unit bid price for paving fabric, complete in place.

The non-woven pavement fabric shall be overlaid with a hot laid asphaltic concrete surface course, Type C. The average application rate, per the roadway evaluation, for any road shall not be less than 165 lbs/yd<sup>2</sup> or more than 385 lbs/yd<sup>2</sup> for surface courses.

**d. Measurement and Payment**

The unit bid price for all items incidental to the application of non-woven road construction fabric shall include an amount sufficient to compensate the Contractor for providing labor, materials, equipment, tools, transportation, supplies, testing, and all requirements necessary to complete in-place the work in accordance with the plans, specifications and terms of this contract.

Measurement and payment for work conducted herein specified shall be the total number of yd<sup>2</sup> of paving fabric material installed complete in-place. Compensation for asphalt cement shall be by the actual gallons utilized for the installation of the paving fabric. The Contractor shall provide an adequate means of determining the applied volume.

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### 3. Hot Laid Asphalt Concrete Surface/Binder

#### a. **Description**

This work shall consist of full-depth repairs with an asphalt binder course and overlaying the rehabilitated pavement with an asphalt-wearing course of Hot Laid Asphaltic Concrete, in accordance with all applicable portions of the SCDOT Standard Specifications for Highway Construction. The Contractor shall furnish all equipment, tools, labor and any other appurtenances necessary to complete the work within the contract time frame. Additional preparatory work may be required when directed by the County Engineer. Application rates will be identified per road evaluations. At the completion of the project all work shall have been performed and finished in a clean, neat, attractive and workmanlike manner, in a safe condition and in compliance with all applicable laws.

#### b. **Materials**

The applicable portions of Section 400, Asphalt Pavements of the SCDOT Standard Specifications, as revised/amended, shall apply to this contract.

At least fifteen (15) days prior to the beginning of the work, the Contractor shall furnish to the County Engineer the SCDOT-approved Job Mix Formula(s) for the materials he intends to supply in conjunction with the performance of this contract.

The Contractor may incorporate Recycled Asphalt Pavements (RAP), up to a maximum of ten (10) percent, into asphalt pavement surface and base courses. Job Mix Formula(s) containing RAP may be designed and certified by an independent engineering firm acceptable to the County Engineer when SCDOT approval cannot be readily secured. Job Mix Formula(s) with a higher rate of 10% RAP incorporated may be used with authorization from the County Engineer. The Contractor may submit documents (*written proof*) of the cost effectiveness of using a Job Mix Formula with an increased RAP content and apply that cost savings to reduce the (virgin) asphaltic concrete mix unit bid price. However, no design Job Mix Formula used in the completion of this contract shall exceed the maximum RAP incorporated content established by the County Engineer. All job mix formula(s) must be submitted by an independent engineering firm and have a stamp of a Professional Engineer registered in the State of South Carolina.

#### c. **Construction Requirements**

All work shall include, but is limited to, the cleaning, distressed pavement repair, subgrade repair, application/compaction of crusher run (maintenance) stone/asphaltic concrete, application of tack coat, regrading, reshaping to typical crown section, testing and other work as deemed appropriate.

The application rate of hot laid asphaltic concrete, surface course, Type C, for each road herein designated part of the Program shall be per the evaluation report. The average application rate for any road shall be not less than 165

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lbs/yd<sup>2</sup> or more than 385 lbs/yd<sup>2</sup> for surface courses. The finished compacted in-place thickness shall be in accordance with the requirements outlined per each roadway evaluation.

The application rate may be decreased/increased for a roadway only upon pre-authorization of the County Engineer or his/her representative.

Asphaltic surface and binder courses shall be compacted to a density of at least 95% in accordance with the Marshall Method of Testing (as determined by ASTM D-1559-89) or a test strip determination at the discretion of the County Engineer.

Unless otherwise directed, all driveways shall be tied in for their full width and length not exceeding the road right-of-way. The maximum average application rate for any road shall not exceed 385 lbs/yd<sup>2</sup> for surface course, and 550 lbs/yd<sup>2</sup> for binder course.

All roads that are to receive an asphaltic concrete surface shall receive a tack coat application. Additional preparatory work may be required when directed by the County Engineer.

**d. Price Adjustment for Out-of-Permitted Variation**

Price adjustments will be made in accordance with SCDOT Supplemental Specification "Hot Mix Asphalt Quality Assurance Specification" dated January 19, 2003, Section 202.1, 302.2 and 402, subject to revisions

When the testing indicates that the mix does not meet specification, adjustments must be made immediately and at least two additional samples taken and tested for each sample that does not meet specifications. Test reports must be stamped and signed by a Registered Professional Engineer and sent directly to the County Engineer by the laboratory.

**e. Field Testing**

The Contractor shall be responsible for monitoring the compaction process and shall be responsible for making adjustments in equipment and/or roller pattern so as to meet the specified in-place density requirements. If, in the judgment of the County Engineer a weak subbase or poor subgrade condition results in a density lower than the minimum specified, the County Engineer may establish a maximum practical density lower than that specified.

The Contractor shall, at no expense to the County, be responsible for density testing to ensure all compacted asphaltic concrete surface and binder courses meet and/or exceed 95% in accordance with the Marshall Method of Testing (as determined by ASTM D-1559-89) or a test strip determination at the discretion of the County Engineer.

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**f. Measurement and Payment**

The unit bid price for Hot Laid Asphalt Concrete, complete in place, shall be on a per ton basis, and shall include an amount sufficient to compensate the Contractor for providing all materials, tools, testing and performing all labor necessary for the complete asphalt overlay process of various roads as authorized by the County Engineer.

All work shall include, but is not limited to, the cleaning and preparation of the existing pavement, application of tack coat, application/compaction of asphaltic materials/stone, testing, and other work as appropriate. All work shall be performed in a neat and workmanlike manner.

**E. SHOULDERING**

**1. Dressing of Road Shoulders**

**a. Description**

The Contractor shall backfill with suitable soil material on both sides of the newly placed asphalt pavement. The dressing of shoulders process shall include, but not limited to, blading, shaping, and compacting any newly placed backfill material. At the completion of the project all work shall have been performed and finished in a clean, neat, attractive and workmanlike manner, in a safe condition and in compliance with all applicable laws. Please see Attachment Two.

**b. Construction Requirements**

Dressing of shoulders shall be accomplished as soon as practicable without causing undue damage to the newly placed asphalt road surface but not less than fourteen (14) days after completion of the road resurfacing process. All shoulders are to abut the edge of the new pavement at the same elevation and taper away from the pavement edge, ensuring that proper runoff of storm water into ditches, down slopes, etc., is maintained.

Equipment used in this operation shall be capable of working the shoulder area without causing displacement, marring or other damage to the newly placed asphalt pavement. Pavement damage by these operations shall be repaired, or, removed and replaced by the Contractor to the satisfaction of the County Engineer without extra compensation. Upon evidence of such damage, the County Engineer may require the discontinuance of the methods used and the work to be completed by other methods.

All shoulders constructed/reconstructed under this contract shall be a maximum of eighteen (18) inches wide. When conditions warrant extending the dressing of shoulders in excess of the specified width, the Contractor shall notify and proceed only with approval from the County Engineer.

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**c. Material**

As minimum standards, the material used in the reconstruction of road shoulders shall be Soil Textural Classification, Type A-2, in accordance with the American Association of State Highway Officials (AASHTO) and the United States Department of Agriculture.

Where possible, road shoulder dressing material shall be obtained by re-grading existing ditch lines and shoulder areas. When re-grading existing ditch lines and shoulder areas is not possible, the Contractor shall haul in topsoil material to be utilized in dressing of shoulders operation. The material shall be of a friable nature such as topsoil, etc., containing grass roots and having the properties of being comparatively porous, capable of growing grass and of a stable nature in that when compacted it will resist erosion and be capable of supporting vehicles when relatively wet.

Such material shall be free of objectionable weeds, litter, excessively large clods, large stones, stumps, trash, toxic substances, or any matter harmful to plant growth or other objectionable material that may hinder subsequent grassing and mowing operations.

The County Engineer reserves the right to reject any and all soil material that is deemed unsuitable and objectionable for use in the dressing of road shoulders. *Note: Such material as defined above shall be obtained by re-grading the ditch lines and shoulder areas.*

**d. Method of Measurement and Payment**

The contract price for backfill material for shoulder construction derived from re-grading existing ditch lines shall be on a per linear foot basis. The contract price for backfill material (topsoil) hauled in for road shoulder construction shall be on a per cubic yard basis.

The unit contract price shall include an amount sufficient to compensate the Contractor for providing all materials, tools, transportation, equipment, and performing all labor necessary for the installation/dressing of the road shoulders.

All work shall be performed in a neat and workmanlike manner and conform to Section 209 of the SCDOT Standard Specifications For Highway Construction, Latest Edition, as revised/ amended, where applicable.

**2. Seeding**

**a. Description**

This work shall consist of seeding and applications of fertilizing, liming when specified, mulching and nitrogen when specified, on all areas disturbed by the re-grading of existing ditch lines, installation of new shoulder material, or as directed by the County Engineer all in accordance with these

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specifications.

**b. Materials**

The Contractor shall, at the time of delivery, furnish the County Engineer with invoices of all seeding materials received in order that the application rate of materials may be determined.

**i. Seed**

All seeds used in this contract per requirements shall conform to all requirements, regulations of the South Carolina Department of Agriculture, and all applicable State/Federal laws.

The several varieties of seed shall be individually packaged or bagged, and tagged to show name of seed, net weight, origin, germination, lot number and other information required by the Department of Agriculture. The County reserves the right to test, reject, or approve all seed before seeding.

Mixtures of different type seeds called for in the seeding schedule shall have weight documented and mixed per the approved proportions at the work-site in the presence of the County Engineer.

**ii. Commercial Fertilizers**

Commercial fertilizers shall comply with State laws. In a mix fertilizer, such as 4-12-12, the first number shall represent the minimum percent of nitrogen required, the second number shall represent the minimum percent of available phosphoric acid required, and the third number shall represent the minimum percent of water-soluble potash required in the fertilizer.

**iii. Lime**

Lime shall be agricultural grade, ground limestone and shall conform to all requirements, regulations of the South Carolina Department of Agriculture and all applicable State/Federal laws.

**3. Construction Requirements**

**a. Stand of Grass**

Before acceptance of the seeding performed for the establishment of permanent vegetation, the Contractor will be required to produce a satisfactory stand of perennial grass whose root system shall be developed sufficiently to survive dry periods and winter weather and be capable of reestablishment in the spring. The County Engineer shall determine the time frame required for said establishment.

**b. Seeding Dates and Rates of Application**

Seeding shall be performed during the applicable sowing season and at the



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rates specified in the seeding schedules. Seeding work may be performed throughout the year, at the discretion of the Contractor, using the schedule prescribed for the given period. Seeding work shall not be conducted when the ground is frozen or excessively wet. Regardless to the seasonal period, work was performed, the Contractor shall be required to produce a satisfactory stand of grass prior to acknowledged contract completion.

**c. Preparation of Ground before Seeding**

The areas to be seeded shall be made smooth, uniform and shall conform to the finished grade and cross section shown on the plans or as otherwise designated. Minor shaping and smoothing of uneven and rough areas outside the grades section shall be performed as directed by the County Engineer in order to provide for more effective erosion control and for ease of subsequent mowing operations.

The areas to be seeded, if not loose, shall be loosened to a minimum depth of three (3) inches before agricultural lime, fertilizer or seed is applied. The areas to be seeded shall be cleared of stones larger than 2-1/2 inches in any dimension, roots and other debris.

**d. Applying Lime and Fertilizer**

Following advance preparation, and placing selected backfill material for shoulders and slopes when called for in the contract, lime and fertilizer shall be spread uniformly over the designated areas and shall be thoroughly mixed with the soil to a depth of approximately two (2) inches. Fertilizer shall be applied at the rate of 500 lbs/acre for the initial application unless otherwise directed. Lime shall be applied at the rate specified in the proposal or as authorized by the County Engineer. Unless otherwise provided, lime will not be applied for temporary seeding. In all cases, unless otherwise approved by the County Engineer, approved mechanical spreaders shall be used for spreading fertilizer and lime.

**e. Seeding (Un-mulched)**

Seed shall be sown within 24 hours following the application of fertilizer, lime, and preparation of the seedbed as specified. Seed shall be uniformly sown at the rate specified by the use of approved mechanical seed drills. Rotary hand seeders, power sprayers or other satisfactory equipment may be used as approved by the County Engineer.

**f. Seeding (Mulched with straw or hay)**

Seed shall be sown as specified in Paragraph e above. Within 24 hours following covering of the seed, straw or hay mulch, material shall be uniformly applied at the rate of two tons per acre. Mulch may be spread either by hand, by appropriate mechanical spreaders or by blowers. The mulch shall allow sunlight to penetrate and air to circulate but also partially shade the ground and conserve soil moisture.

#### 4. Seeding Schedule

Unless otherwise provided, the Contractor may select the type of seeding from the table shown below as applicable to the time of year planting will occur. The total pounds of seed per acre shall be the sum total shown for all varieties of seed opposite the schedule number in the seeding schedules below:

Schedule Number	Common Name of Seed	Rate 1*	Rate 2^	Planting Dates
1	Bermuda Common (hulled)	15	15	March 15 - August 14
	Sericea Lespedeza (scarified)	50	30	
	Kentucky 31 Fescue	30	30	
2	Kentucky 31 Fescue	30	30	August 15 - 14 March
	Sericea Lespedeza (un-hulled, non-scarified)	80	0	
	Bermuda Common (un-hulled)	20	20	
	Annual Rye grass	5	5	
	Rye Grain	20	20	

\* **Rate 1:** One lb / acre on slopes over five feet in height.

^ **Rate 2:** Two lbs / acre on shoulders, medians, etc. and slopes under five feet in height.

#### 5. Maintenance

The Contractor will be required to do all maintenance necessary to keep seeded areas in a satisfactory condition until work is finally accepted. This includes repairing washes, and additional seed, fertilizer and mulch applied to areas where satisfactory stand of grass has not been achieved.

#### 6. Method of Measurement and Payment

The accepted quantities will be paid for at the contract unit price per square yard for seeding (un-mulched) or seeding (mulched), the price and payment shall be full compensation for furnishing all materials, labor tools, equipment, and incidentals necessary to complete the work.

### F. TRAFFIC

#### 1. MAINTENANCE OF TRAFFIC

##### a. Purpose

The purpose of these specifications is to provide a plan for maintenance and control of traffic during work under this contract. These specifications set forth procedures that will permit traffic to pass through or around the project

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area safely and with a minimum of inconvenience.

**b. Traffic Control Plans**

A Traffic Control Plan (TCP) is advisable for all projects. The TCP shall be a plan for handling traffic through a specific road, street, work zone or project. The degree of detail in the TCP will depend upon the project complexity and potential traffic interference with construction activity. All TCP devices shall conform to the Manual on Uniform Traffic Control Devices, latest edition (hereinafter referred to as - MUTCD) unless the County Engineer gives authorization to do otherwise.

This work shall consist of the furnishing, installation, maintenance, relocation and removal of signs, traffic cones, barrels, barricades, warning lights, flag personnel and other traffic control devices which are used for the purpose of regulating, warning or directing traffic during construction completion of this contract. All items shall remain the property of the Contractor.

**c. Execution of Plans**

- i. For all construction projects, attention shall be given to traffic control from the early stages of development of the project, through the completion of the actual construction, including the preliminary layout studies, detailed design and the drafting of the special provisions. Thorough planning should provide a detailed set of guidelines and a checklist for consideration when developing a traffic control plan for each construction project. Careful consideration of the TCP should result in minimizing confusion and delays to motorists and pedestrians including the handicapped, as well as reduce accidents and provide greater safety to the various parties involved in the project.
- ii. The TCP for base and surfacing, or overlay projects shall, as a minimum, provide for advance warning signs at the ends of the project as well as for roads crossing the project, signs for lane closures, treatment of longitudinal joints and edge drop-off in work zones.
- iii. The TCP for bridge replacement projects, including those utilizing culverts as well as bridge structures, shall include the general features of all TCP and shall include a complete, detailed detour route with appropriate signing if traffic is to be maintained over a detour. For special situations, TCP should include traffic control devices for temporary bypasses and similar types of traffic diversions.
- iv. The TCP for more complex grading, surfacing, and bridge replacement projects, including those projects involving relatively

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higher volumes of traffic and/or detours, shall consist of a complete, detailed description of the signing required for all stages of construction and any detour routes needed to maintain traffic.

- v. The Contractor performing the work shall be responsible for the erection and maintenance of all traffic control devices during construction as required in the MUTCD manual, latest edition.
- vi. The Contractor shall be responsible for and shall furnish flag personnel, appropriately equipped, instructed, with the ability to convey instructions using the English language and when required to regulate the flow of vehicular traffic around and through the project during the prosecution of the work.
- vii. The County Engineer reserves the right to restrict construction operations and/or lane closures when the continuance of the work and/or lane closures would seriously hinder normal traffic flow during holidays, extended holiday periods, weekends, special events or at other times when traffic is unusually heavy. Also, in urban areas, streets with high volume commuter traffic are not to be blocked or lanes closed during the morning and afternoon peak traffic periods.
- viii. All Contractor trucks and other vehicles will be required to travel in the direction of normal roadway traffic. When not in use, the Contractors equipment or vehicles shall be parked well away from the travel lanes so as to lessen the possibility of the equipment being hit by a vehicle.
- ix. When working adjacent to or over travel lanes, the Contractor shall insure dust and other debris from his/her operations do not endanger normal traffic operations. The Contractor shall schedule and arrange his/her work, equipment and materials to insure the least inconvenience and the utmost in safety to the traveling public.
- x. Where a specific condition is not covered in these specifications, prior to beginning such work causing the condition, a plan of traffic control shall be agreed upon between the Contractor and the County Engineer.
- xi. In the event it becomes the judgment of the County Engineer Traffic Control is not being adequately administered, the Contractor will be notified. If the condition is not promptly corrected, then all work shall be suspended until such conditions are corrected. During such suspension, the charging of work time shall be continued. The County Engineer shall have the authority to withhold partial payment for any work on this contract if traffic control is not being provided in accordance with the Specifications.

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- xii. Compensation for Traffic Control Plans and the Maintenance of Traffic Control to furnish all materials, preparations, installations, maintaining, labor, equipment, tools and incidentals necessary for maintenance of traffic control shall not be a separate unit bid item, but is inclusive of full compensation for all work specified herein.

**2. EROSION CONTROL PLANS**

All projects are required to be compliance with the erosion control permit requirements set forth and/or administered by the Land Development Division. Please direct all questions to the County Engineer in the Land Development Division.

**G. EMULSION CRITERIA**

Asphalt emulsion added to the RAP shall provide an even distribution of the millings and shall not break prematurely. It shall provide the mixture with sufficient stability that meets the requirements of Table 1. The asphalt emulsion shall also conform to the values given in Table 1 and performed in compliance with AASHTO T 59. The asphalt emulsion supplier shall perform all testing for both emulsions and mixes at a SCDOT approved laboratory on a per road basis.

Table 1:

Property	Criteria
Particle Change	Positive
Distillation:	
Oil Distillate by volume of emulsion (%)	0.5 max
Residue (%)	58 min.
Penetration @ 77F	40-90
Sieve Test (%)	0.10 max
Storage Stability	1.0 max

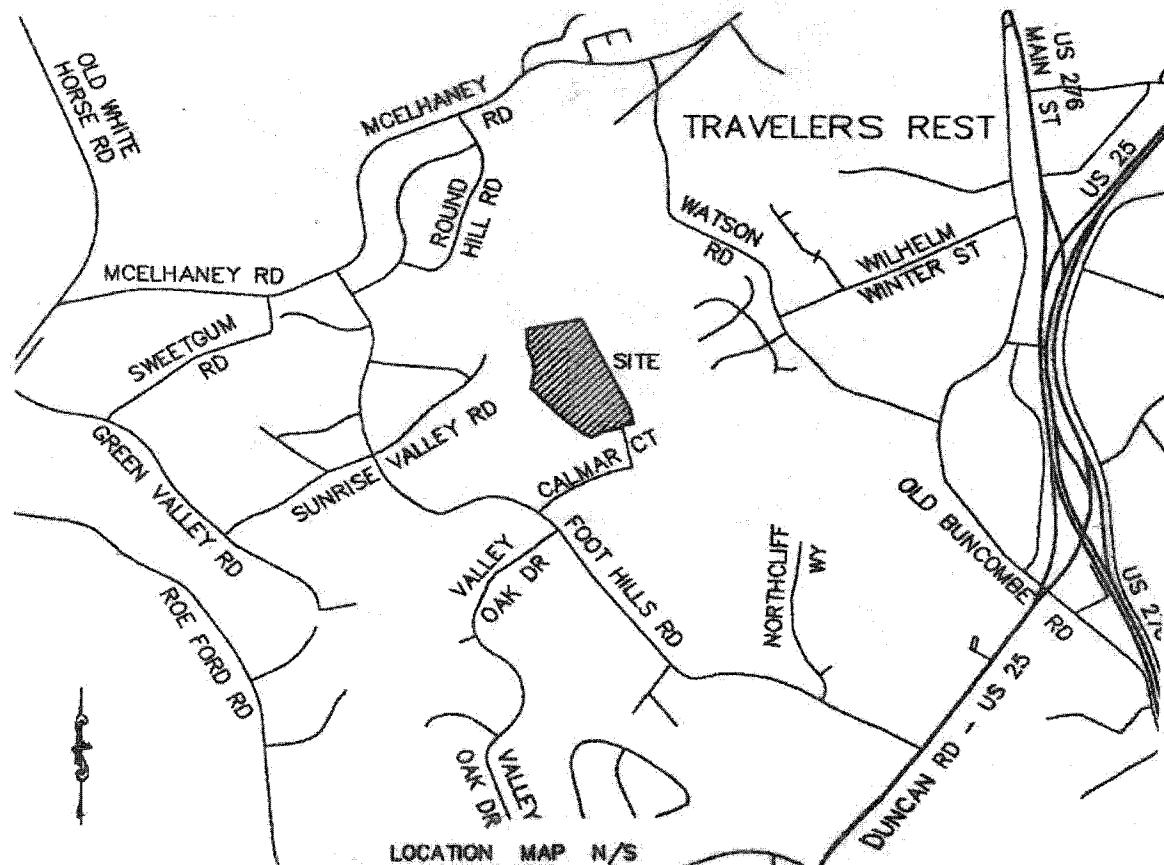
Please use Reference: SCDOT Standard Specifications for Highway Construction, Latest Edition; Sections 407.2.4 and 407.2.5.

**H. PROJECT LOCATION**

The project is located in Greenville County off Foot Hills Road and is called Hunters Ridge subdivision.

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## Hunters Ridge Subdivision Location Map



### IV. Pre-bid Meeting

A pre-bid meeting and site visit will be held at **9:00 A.M., EDT, on Thursday, March 24, 2016** at the Greenville County Procurement Services office located at 301 University Ridge, Suite 100, Greenville, SC 29601.

### V. Pricing

Pricing shall be submitted using the Bid Sheet (page 4). The Bid Sheet must be signed by an authorized representative. Failure to sign will void the bid.

### VI. Bonding

See Terms and Conditions (page 36) for Bid Bonds and Performance/Payment Bonds required for this project.

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## **VII. Submission Procedures, Requirements**

All submissions must be received by **3:00 P.M., EDT, Wednesday, April 6, 2016** and delivered to 301 University Ridge, Suite 100, Greenville, South Carolina 29601. If the submission is late, the bid will be rejected. There will be no exceptions. Responders submitting bids shall be responsible for all cost of preparing such bids.

Responders to this Invitation for Bids shall closely examine the specific requirements noted herein and the attached **Terms and Conditions** and submit one (1) original and three (3) bound copies of their bid to the address listed below. To ensure acceptance of the bid, the Invitation for Bid number **(IFB #65-04/06/16)** should be clearly shown on the lower left corner of the return envelope. Facsimile transmittals or offers communicated by telephone will not be accepted or considered.

**County of Greenville  
Department of General Services  
Procurement Services Division, Attn: Procurement Director  
301 University Ridge, Suite 100  
Greenville, South Carolina 29601-3665  
IFB #65-04/06/16**

## **VIII. Statement of Qualifications**

Vendors shall include a statement of qualifications that includes the following:

1. Overview of company background.
2. Vendor contact information with names, addresses, telephone numbers.
3. List of at least three (3) references including names, addresses, and telephone numbers. Vendor should include any government entity reference.
4. List of previous projects of similar size and scope.
5. Completed Bidder Qualification Questionnaire, pages 50 through 52.

## **IX. Inquiries and Addenda**

### **A. Questions**

All questions concerning this IFB are to be submitted in writing via fax, electronic mail, or regular mail to Cal Pilgrim, Buyer, Procurement Services Division, to the address listed below, **no later than 5:00 P.M., EDT, March 28, 2016**. Please refer all questions about this Request for Bid and project to:

**County of Greenville  
Cal Pilgrim, Buyer  
Procurement Services Division  
301 University Ridge, Suite 100  
Greenville, South Carolina 29601-3665**

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**Phone: (864) 467-7204**  
**Fax: (864) 467-7304**  
**E-mail: cpilgrim@greenvillecounty.org**

All inquiries and responses will be distributed to all vendors known to have received the IFB document. The County will not be responsible for or bound by any oral instructions made by any employee(s) of the County in regard to this IFB.

**B. Addenda**

This IFB represents the most definite statement Greenville County will make concerning information upon which bids are to be based. Any changes to this IFB will be in the form of a written addendum, which will be furnished to all vendors who are listed with the County as having received an IFB document. No addenda will be issued later than five (5) working days prior to the date for receipt for bids except an addendum which, if necessary, postpones the date for receipt of bids or cancels this IFB. Vendors shall acknowledge receipt of all addenda and Questions and Answers with their Bid.

**X. General Information**

**A. Proprietary Information**

Responders are advised that the County, to the extent permitted by law, will protect the confidentiality of their bids. Responders are advised to consider the implications of the South Carolina Freedom of Information Act, particularly after the bid process has ceased and the contract has been awarded.

**B. Errors and Omissions**

The Responder will not be allowed to take advantage of any errors or omissions in the Invitation for Bids. Where errors or omissions appear in the IFB, the Responder shall promptly notify the County of Greenville in writing of such error or omission it discovers. Any significant error, omission and/or inconsistency in the specifications are to be reported as soon as possible but no later than five (5) days before such time the response is to be submitted.

**C. Withdrawal of Bid**

An official representative of a Responder may withdraw a Responder's response at any time prior to the bid submission deadline. Acceptable proof establishing that he/she is the representative of the Responder must be provided.

**D. Non-Endorsement**

If the County awards contract, the successful Responder shall not issue any news release or other statement relating to the award or servicing of the agreement which state or imply the County of Greenville's endorsement of the successful Responder's services.



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XI.

**Insurance:**

The Contractor is responsible for and must have all required insurance listed below and shall not commence work under the associated contract until it has obtained all insurance required, and the County has approved such insurance in writing, nor shall the Contractor allow any subcontractor to commence work on its subcontract until all similar insurance required of the subcontractor has been obtained. All insurance policies shall be maintained for the life of the contract.

- A. **THE COUNTY SHALL BE NAMED AS "ADDITIONAL INSURED" FOR ITS INTEREST** on all policies of insurance, except Workers' Compensation, Automobile Liability and Professional Errors and Omissions regarding ongoing operations, products and completed operations and this shall be noted on the face of the Certificate of Insurance. As a part of the certificate of insurance requirement the Contractor shall also include acknowledgement and acceptance of the wavier of subrogation provision granted to the County of Greenville. This acknowledgement and acceptance should be included in the same section of the Certificate of Insurance that evidences the "Additional Insured" provision.
- B. Certificates of all such policies of insurance shall be provided by the Contractor's insurance agent or broker to the County within ten (10) working days from the date of Notice of Award.
- C. All Certificates of Insurance submitted shall provide on the face of the Certificate reference to County's **IFB #65-04/06/16.**
- D. Contractor will provide County a minimum of thirty (30) days advance notice in the event the insurance policies (or an insurance policy) is canceled. Subcontractors approved to perform work on this project are subject to all of the requirements in this section.
- E. Contractor agrees to maintain and keep in force during the life of this agreement, with a company or companies authorized to do business in South Carolina, the following policies:

**Comprehensive General Liability**

\$1,000,000 per occurrence-combined single limit

\$2,000,000 general aggregate

include products and completed operations.

**Automobile Liability**

\$1,000,000 per occurrence combined single limit

Coverage shall include bodily and property damage,  
and cover all vehicles including owned, non-owned, hired.

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### **Workers' Compensation and Employer's Liability**

Coverage A. State of SC Statutory

Coverage B. Employers Liability

\$1,000,000 each accident

\$1,000,000 disease, per employee

\$1,000,000 disease policy limit

Policies shall contain a waiver of subrogation in favor of and/or that applies to the County of Greenville, its departments, agencies, boards, employees, and commissions for losses from work performed by or on behalf of the contractor.

**No deviation from this coverage will be accepted unless, in the County's sole discretion, it is more advantageous to the County, i.e. \$1,000,000 or \$2,000,000 or \$5,000,000 limit would be acceptable.**

### **XII. Evaluation Criteria**

All bids submitted and accepted in accordance with this IFB will be evaluated based on the following criteria which is in no particular order. Greenville County reserves the right to interview selected finalists. Greenville County will not responsible for any costs associated with interviews of responders.

- Responsiveness to this IFB
- Previous experience on projects of similar scope and size.
- Cost
- References
- Completed Bidder Qualification Questionnaire

### **XIII. Safety, Health and Security**

Contractor shall be solely responsible for its activities, that of its employees on the site and activities of its consultants, contractors and/or subcontractors for maintaining a safe jobsite. Contractor's activities and activities of its consultants, contractors and/or subcontractors shall comply with all local, state, and federal safety regulations and their enforcement agencies. Contractor shall at all times conduct its operations under this Contract in a manner to avoid risk of endangerment to the health and safety of persons and property. The Contractor shall have sole responsibility for implementing its safety and health programs, taking all safety and health precautions necessary and continuously inspecting all equipment, materials and work to prevent, discover, determine and correct any conditions which might result in personal injury, equipment damage or damage to property or the public. Contractor's safety, health and security programs shall be in compliance with all regulatory requirements and shall furnish accident, incident, injury, and other records and reports required by the Occupational Safety and Health Administration, State and local laws, or by the County.

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#### **XIV. Illegal Immigration Reform Act Compliance**

By submitting an offer, Contractor certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws

(originally enacted as Section 3 of The South Carolina Illegal Immigration Reform Act, 2008 S. C. Act No. 280) and agrees to provide upon request any documentation required to establish either: (a) the applicability of Title 8, Chapter 14 to Contractor and any subcontractors or sub-subcontractors; or (b) the compliance with Title 8, Chapter 14 by Contractor and any subcontractor or sub-subcontractor. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both".

Contractor agrees to include in any contracts with its subcontractors language requiring the subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in any contracts with the sub-subcontractors language requiring the sub-subcontractor to comply with the applicable requirements of Title 8, Chapter 14. In the event any contractor, subcontractor and/or sub-subcontractor is found not to be in compliance with the SC Immigration Reform Act [hereinafter "The Act"], the contractor agrees to fully indemnify the County for any loss suffered by the County as a result of such contractor, subcontractor or sub-subcontractor's failure to comply with the Act.

#### **XV. Contract**

A sample contract is provided.



**COUNTY OF GREENVILLE  
PROCUREMENT SERVICES DIVISION  
HUNTERS RIDGE SUBDIVISION  
IFB #65-04/06/16**

**INSTRUCTIONS/TERMS AND CONDITIONS:**

1. **IFB Opening and Award:** Bids will be examined promptly after opening and each bid will be announced to all participants. However, no decision will be made until Procurement and the user Division have had ample time to review each bid. However, award will be made at the earliest possible date. The County reserves the right to award in whole or in part, by item, group of items, geographic area or by section where such action serves the County's best interest. The contract will be awarded to the bid that meets the requirements and criteria set forth in the invitation for bid. No bid may be withdrawn for a period of sixty (60) days after bid opening date. Bids, whether mailed or hand delivered, must be received and time/date stamped in the Procurement Services Office by the closing time and date indicated on the bid. Bids received after the bid closing time/date will not be accepted. By submission of a bid, you are guaranteeing that all goods and services meet the requirement of the solicitation during the contract period.
2. **Rights Reserved by Greenville County:** Greenville County reserves the right to reject any and all bids, any portion thereof, and waive any technicalities. Accordingly, the right is reserved to make awards in the best interest of the County. Integrity, reputation, experience and past performance will be heavily weighed in bid evaluation. This solicitation does not commit the County of Greenville to award a contract, to pay any costs incurred in the preparation of the bid, or to procure or contract for goods or services listed herein.
3. **Responders Qualification:** Responders must, upon request of the County, furnish satisfactory evidence of their ability to furnish products or services in accordance with the terms and conditions of these specifications. The County reserves the right to make the final determination as to the bidder's ability to provide the products or services requested herein.
4. **Responders Responsibility:** Each bidder shall be fully acquainted with the conditions relating to the scope and restrictions attending the execution of the work under the conditions of this bid. It is expected that this will sometimes require on-site observation. The failure or omission of a bidder to be acquainted with existing conditions shall in no way relieve the bidder of any obligations with respect to this bid or to any contract as a result of this bid.
5. **References:** The County requires bidders to list at least three (3) references, names, addresses and telephone numbers of contact persons for companies with whom the bidder has performed or provided similar work, service or product.
6. **Waiver:** The County reserves the right to waive any Instructions to Bidders, General or Special Terms and Conditions, specifications, or technicalities when it is deemed to be in the best interest of the County to do so.

7. **Rejection:** Greenville County reserves the right to reject any bid that contains prices for individual items or services that are inconsistent or unrealistic when compared to pricing of like bids; or ambiguous bids which are uncertain as to terms, delivery, quantity, or compliance with specifications may be rejected or otherwise disregarded if such action is in the best interest of the County.
8. **Bid form:** Each bidder must submit a bid on the form provided. The bidder shall sign his bid correctly or the bid may be rejected. If the bid shows any omissions, alteration of form, unauthorized additions, a conditional bid or any irregularities of any kind, bid may be rejected. Bid may not be accepted on any other form than the bid form provided.
9. **Questions:** Questions shall be submitted in writing to Cal Pilgrim, Buyer, Procurement Services Division, County of Greenville, 301 University Ridge, Suite 100 by Fax (864) 467-7304 or by E-Mail to [cpilgrim@greenvillecounty.org](mailto:cpilgrim@greenvillecounty.org), by **5:00 P.M., EDT, March 30, 2016.**
10. **Bid Bond:** Bidders shall submit with their bid a bid bond in the amount of 5% of the bid price. This bond may be in the form of Certified Check, Cashier's or Bank Money Order of any national or state bank and shall be made payable to Greenville County. Bids submitted without being accompanied by any of the foregoing as required, shall be considered informal and will be rejected. Any bid accompanied by a bid bond not properly executed in the opinion of the County Attorney, may be rejected. The bond will be forfeited to the County by the successful bidder as liquidated damages in case a bid award is made to that bidder and the contract and bond are not promptly and properly executed.
11. **Return of Bid Bond:** When bids are awarded, the Procurement Services Division will return immediately all checks, except that of the successful bidder. The check of the successful bidder will be returned upon compliance with the performance and payment bond requirements.
12. **Performance and Payment Bond:** The successful bidder, within fifteen (15) working days after acceptance of the bidder's offer by the County, shall furnish a satisfactory performance and payment bond in the amount of the total bid price. The performance and payment bond must be received by the county prior to issuance of an executed contract and Notice to Proceed. The fifteen (15) working days may be extended upon written approval by the Purchasing Manager. A copy of the written approval shall be transmitted to the successful bidder stating the terms of any extension. In the event that the bidder fails to deliver to the County Purchasing and Contracts Division the performance and payment bond in said period of fifteen (15) working days after acceptance of the bidder's offer by the County, then the bid bond of the bidder shall be retained by the County in its entirety and the award will be withdrawn from the bidder. The Bond must have approval by the County Attorney's Office before it is made effective. The successful bidder shall have as surety a corporate surety authorized to act as surety in South Carolina. The Performance and Payment Bond will insure that the successful bidder will promptly make payments to all persons supplying labor or materials to the bidder; and shall guarantee to indemnify and save the County, its officers, divisions, and employees harmless

from all costs, damages, and expenses growing out of or by reason of the successful bidder's failure to comply and perform the work and complete the contract in accordance with the specifications in the matter of making, furnishing and/or delivering said work or supplies. The Performance and Payment Bond will be in effect for one year after completion of the contract.

13. **Availability of Bonding Agency:** In addition, the bonding company must have an agent available to meet with County officials to clarify and explain the County's responsibility in maintaining the integrity of the bond.
14. **Specification Changes, Additions and Deletions:** All changes in specifications shall be in writing in the form of an addendum and furnished to all bidders. The County of Greenville shall not be responsible for any verbal information given by any employees of the County of Greenville in regard to this bid.
15. **Number of Bid Copies:** Please submit **One (1) Original and Three (3) Copies** of your bid.
16. **Bid Changes:** Bids, amendments thereto or withdrawal requests received after the advertised time for bid opening, shall be void regardless of when they were mailed.
17. **Bid Price:** The bid price presented as a result of these specifications shall be for the contract period. The bid shall be acceptable for sixty (60) days from the date of opening. All prices and notations shall be printed in ink or typewritten. Errors should be crossed out, corrections entered and initialed by the person signing the bid. Erasures or use of typewriter correction fluids may be cause for rejection. No bid shall be altered or amended after specified time for opening.
18. **Federal, State and Local Laws:** The contractor assumes full responsibility and liability for compliance with any and all local, state and federal laws and regulations applicable to the contractor and his employees including, but not limited to, compliance with the EEO guidelines, the Occupational Safety and Health Act of 1970, and minimum wage guidelines.
19. **Tie Bids:** In the case of tie bids, the County reserves the right to make the award based on the factors outlined in Section 3-202 of the Procurement Ordinance, or in what it considers to be in the best interest of the County.
20. **Deduction and Holdbacks:** In addition to the County's right of termination, the County shall be entitled to full reimbursement for any costs incurred by the County by reason of the contractor's failure to perform or to satisfactorily perform its responsibilities and duties. Such costs may include, but are not limited to, the cost of using the County's employees or employees of any other entity to perform the obligations of the contract. The County may obtain any such reimbursement by deduction from payments otherwise due to the contractor or by any other proper and lawful means. All deductions from any money due the contractor are to be as liquidated damages and not as a penalty. It is the County's intent to give the contractor a reasonable opportunity whenever practicable, to correct any such failure to perform or satisfactorily perform its responsibilities and duties. In

no circumstances shall any uncorrected situation extend for more than five (5) days. The County will make the following deductions from the contract sum in the event that the contractor fails to perform any of the required work within the required time limits in the event the County carries out the work using its forces or another contractor.

- A. For use of County's forces – actual cost involved.
- B. For use of another contractor – the amount charged by said contractor.

The County reserves the right to hold back and/or withhold part of complete payments for unsatisfactory work, deficiencies, etc. until said defects are satisfactorily corrected or cleared.

21. **Evaluation Criteria:** All bids submitted and accepted in accordance with this IFB will be evaluated based on the following criteria which is in no particular order. Greenville County reserves the right to interview selected finalists. Greenville County will not be responsible for any costs associated with interviews of responders.

- Responsiveness to this IFB
- Previous experience on projects of similar scope and size.
- Cost
- References
- Completed Bidder Qualification Questionnaire

22. **Quality:** Unless otherwise indicated in this bid it is understood and agreed that any items offered or shipped on this bid shall be new and in first class condition unless otherwise indicated herein.

23. **MBE/WBE Participation – Affirmative Action:**

- A. MBE/WBE – Vendors submitting bids are encouraged to solicit MBE/WBE participation in fulfilling their contract. Indicate in your response any MBE/WBE areas of involvement for monitoring purposes.
- B. The successful bidder will take affirmative action in complying with all Federal and State requirements concerning fair employment and treatment of all employees, without regard or discrimination by reason of race, color, religion, age, sex, national origin or physical handicap.

24. **Default:** In case of default by vendor the County may procure the item or services from other sources and may recover the loss occasioned thereby from any unpaid balance due the vendor or by proceeding against the vendor's performance bond, if any, and/or by suit against vendor.

25. **Termination:** This contract is subject to termination for failure to comply with the specifications, terms and conditions by the County or the contractor upon written

notice by registered mail. Such termination will be effective not less than ten (10) days nor more than sixty (60) days after receipt of such notice from the County nor less than thirty (30) days nor more than sixty (60) days after receipt by the County from the contractor. Receipt of notice by one party to terminate the contract will nullify any subsequent reciprocal notice by the receiving party prior to the announced termination date. In the event of termination the County shall be responsible to pay the contractor only for work satisfactorily completed upon the effective date of termination and shall not be responsible for any other charges.

26. **Termination for Convenience:** Greenville County may terminate for convenience any contract resulting from this solicitation by providing sixty (60) calendar days advance written notice to the vendor.
27. **Non-Appropriation:** Any contract entered into by the County, resulting from this invitation shall be subject to cancellation without damages or further obligation when funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period or appropriated year.
28. **Incorporation of Bid into Contract:** The terms, conditions, and specifications of this bid and the selected firm's response are to be incorporated into the contract.
29. **S.C. Law Clause:** Upon award of contract under this bid, the person, partnership, association or corporation to whom the award is made must comply with the laws of South Carolina which require such person or entity to be authorized and/or licensed to do business with this State. Notwithstanding the fact that applicable statutes may exempt or exclude the successful bidder from requirements that it be authorized and/or licensed to do business in this State, by submission of this signed bid, the bidder understands and agrees to be bound to the jurisdiction and process of the courts of the State of South Carolina, as to all matters and conflicts or future conflicts under the contract and the performance thereof, including any questions as to the liability for taxes, licenses, or fees levied by the State.
30. **Assignment Clause:** Successful bidder will be required to give the County ninety (90) days notice in the event of a change in the ownership of this contract. The County is under no obligation to continue this contract with an assignee. No contract or its provisions may be assigned, sublet, or transferred without the written consent of the County.
31. **Indemnification:** The contractor agrees to indemnify and save harmless the County of Greenville and all County officers, agents and employees from any and all claims, suits, actions, legal proceedings, damages, costs, expenses & attorney fees of every name and description, arising out of or resulting from the use of any materials furnished by the contractor, or any work done in the performance of the contract arising out of a willful or negligent act or omission of the provider, its officers, agents and employees; provided that such liability is not attributable to a willful or negligent act or omission on the part of the County, its officers, agents and employees.



32. **Deviations from Specifications:** Any deviation from specifications indicated herein must be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with these specifications, and successful bidder will be held responsible therefore. Deviations must be explained in detail on separate attached sheets(s). The listing of deviations, if any, is required but will not be construed as waiving any requirements of the specifications. Deviations found in the evaluation of the bid and not listed may be cause for rejection. Bidders offering substitute or equal items must provide information sufficient enough to determine acceptability of item offered.
33. **Minor Deviations:** The County reserves the right to negotiate minor deviations from the prescribed terms, conditions and requirements with the selected vendor.
34. **Contractor License Requirement:** The contractor shall procure all permits and licenses, and pay all charges and fees necessary and incidental to the lawful conduct of his business. He shall keep himself fully informed of existing and future Federal, State, and Local Laws, ordinances and regulations, which in any manner affect the fulfillment of his contract and shall comply with the same.
35. **Conflict of Interest Statement:** The contractor may become involved in situations where a conflict of interest could occur due to individual or organizational activities within the County. The vendor, by submitting a bid, is in essence assuring the County that his company, and/or subcontractors, is in compliance with all federal, state, and local conflict of interest laws, statutes, and regulations.
36. **Insurance:**

**The Contractor is responsible for and must have all required insurance listed below and shall not commence work under the associated contract until it has obtained all insurance required, and the County has approved such insurance in writing, nor shall the Contractor allow any subcontractor to commence work on its subcontract until all similar insurance required of the subcontractor has been obtained. All insurance policies shall be maintained for the life of the contract.**

- A. **THE COUNTY SHALL BE NAMED AS "ADDITIONAL INSURED" FOR ITS INTEREST** on all policies of insurance except Worker's Compensation, Automobile Liability and Professional Errors and Omissions regarding ongoing operations, products and completed operations, and this shall be noted on the face of the Certificate of Insurance. As a part of the certificate of insurance requirement the contractor shall also include acknowledgement and acceptance of the waiver of subrogation provision granted to the County of Greenville. This acknowledgement and acceptance should be included in the same section of the Certificate of Insurance that evidences the "Additional Insured" provision.
- B. Certificates for all such policies of insurance shall be provided by the contractor's insurance agent or broker to the County within 10 working days from the date of Notice of Award.

- C. All Certificates of Insurance submitted shall provide on the face of the certificate reference to County's IFB #65-04/06/16.
- D. Contractor will provide County a minimum of 30 days advance notice in the event the insurance policies (or an insurance policy) are canceled. Subcontractors approved to perform work on this project are subject to all of the requirements in this Section.
- E. Contractor agrees to maintain and keep in force during the life of this Agreement, with a company or companies authorized to do business in South Carolina, the following insurance policies:

**Comprehensive General Liability:**

\$1,000,000 per occurrence - combined single limit / \$2,000,000 general aggregate, to include products and completed operations.

**Automobile Liability:**

\$1,000,000 per occurrence - combined single limit (Coverage shall include bodily injury and property damage and cover all vehicles including owned, non-owned and hired)

**Worker's Compensation and Employer's Liability:**

Coverage A - State of SC

Coverage B - Employers liability

\$1,000,000 Each Accident

\$1,000,000 Disease, Per Employee

\$1,000,000 Disease, Policy Limit

Policies shall contain a waiver of subrogation in favor of and/or that applies to the County of Greenville, its departments, agencies, boards, employees, and commissions for losses from work performed by or on behalf of the contractor.

**No deviation from these coverages will be accepted unless, in the County's sole discretion, it is more advantageous to the County, i.e., \$1,000,000 - a \$2,000,000 or \$5,000,000 limit would be acceptable.**

- 37. **Contracts:** The County reserves the option to prepare and negotiate its own contract with the vendor, giving due consideration to the stipulations of the vendor's contracts and associated legal documents. Vendors should include with their submittal a copy of any proposed standard contract.
- 38. **Contractor Liability:** The contractor assumes full responsibility for all injuries to, or death of any person and for all damage to property, including property and employees of the County and for all claims, losses or expense which may in any way arise out of the performance of the work, whether caused by negligence or otherwise; and the contractor shall indemnify and save the County harmless from all claims, losses, expense, or suits for any such injuries, death or damages to property, and from all liens, losses, expenses, claims or causes of action of any sort which may arise out of the performance of the work, and shall defend, on behalf of the County and suit brought against the County for attorney's fees and

for all other expenses incurred by the County in connection with or as a result of any such suit, claims, or loss. Under no circumstances and with no exception will Greenville County act as arbitrator between the contractor and any subcontractor. The contractor will be solely responsible for compliance with building code requirements, all dimensions, and all conditions relating to his work under this contract. Workmanship shall be first quality in every respect. All measures necessary to ensure a first class job shall be taken.

39. **Sub-Contracting:** The contractor shall not subcontract any portion of this contract without proper written approval from the County.
40. **Non-Collusion:** The contractor expressly warrants and certifies that neither the Contractor nor its employees or associates has directly or indirectly entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in conjunction with this bid.
41. **Prohibition of Gratuities:** Neither the contractor nor any person, firm or corporation employed by the contractor in the performance of the contract shall offer or give, directly or indirectly, to any employee or agent of the County, any gift, money, or anything of value, or promise any obligations, or contract for future reward or compensation at any time during the term of this contract.
42. **Publicity Releases:** Contractor agrees not to refer to the award of this contract in commercial advertising in such a manner as to state or imply that the products or services provided are endorsed or preferred by the user. The contractor shall not have the right to include the County's name in its published list of customers without prior approval of the County. With regard to news releases, only the name of the County, type and duration of contract may be used and then only with prior approval of the County. The contractor also agrees not to publish, or cite in any form, any comments or bids from the County Staff unless it is a direct bid from the Public Information Officer.
43. **Public Record:** All information submitted relating to this bid, except for proprietary information, shall become part of the public record to the extent required by the Freedom of Information Act. Vendors shall be responsible for clearly marking all information submitted that is proprietary based on the Freedom of Information Act. The County assumes no responsibility for the release of information not clearly and properly labeled as proprietary.
44. **Precedence:** In the event of conflict between the terms and conditions and the specifications, the more restrictive instruction shall take precedence unless stated otherwise in the specifications.
45. **Illegal Immigration Reform Act Compliance:** By submitting an offer, Contractor certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws (originally enacted as Section 3 of The South Carolina Illegal Immigration Reform Act , 2008 S.C. Act No. 280) and agrees to provide upon request any documentation required to establish either: (a) the applicability of Title 8, Chapter 14 to Contractor and any subcontractors or sub-subcontractors; or (b) the compliance with Title 8, Chapter 14 by Contractor and any subcontractor or sub-subcontractor. Pursuant to Section 8-14-60, "A person

who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony, and upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." Contractor agrees to include in any contracts with its subcontractors language requiring the subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in any contracts with the sub-subcontractors language requiring the sub-subcontractor to comply with the applicable requirements of Title 8, Chapter 14. In the event any contractor, subcontractor and/or sub-subcontractor is found not to be in compliance with the SC Immigration Reform Act [hereinafter "The Act"], the contractor agrees to fully indemnify the County for any loss suffered by the County as a result of such contractor, subcontractor or sub-subcontractor's failure to comply with the Act.

46. **Safety, Health, and Security:** Contractor shall be solely responsible for its activities, that of its employees on the site and activities of its consultants, contractors and/or subcontractors for maintaining a safe job site. Contractor's activities and activities of its consultants, contractors and/or subcontractors shall comply with all local, state, and federal safety regulations and their enforcement agencies. Contractor shall at all times conduct its operations under this Contract in a manner to avoid risk of endangerment to the health and safety of persons and property. The Contractor shall have sole responsibility for implementing its safety and health programs, taking all safety and health precautions necessary and continuously inspecting all equipment, materials and work to prevent, discover, determine and correct any conditions which might result in personal injury, equipment damage or damage to property or the public. Contractor's safety, health and security programs shall be in compliance with all regulatory requirements and shall furnish accident, incident, injury, and other records and reports required by the Occupational Safety and Health Administration, State and Local laws, or by the County.



**COUNTY OF GREENVILLE  
PROCUREMENT SERVICES DIVISION  
HUNTERS RIDGE SUBDIVISION  
IFB #65-04/06/16**

**GENERAL PROVISIONS**

1. **Scope of Work:** The main purpose of this project is to bring the subdivision to Greenville County standards and to be accepted into the County Road Inventory. The Contractor shall coordinate with utility companies and property owners prior to the start of construction. The work consists of removing and replacing sidewalk and/or rolled curbs, full depth repair, install new sidewalk, and installing asphalt surface to bring the subdivision in to the County's Standards. The Contractor will be required to stabilize washout areas around the pond and seed and straw all bare areas. All construction shall conform to Greenville County Land Development Regulations, SCDOT Specifications, and match any existing work. This project is a unit price and all quantities are estimated. Contractors are required to visit the site to ensure a complete understanding of the scope of work. The Contractor shall be required to adjust any utility valves and or manhole lids as needed. The Contractor shall remove sections of the damaged roads (as marked by Greenville County) and complete full depth repairs to pavement. The Contractor shall stabilize washout area at detention pond. The Contractor shall limit the disturbed area and will be responsible for restoring disturbed areas to its original condition or better.

All construction shall conform to Greenville County Land Development Regulations and SCDOT specifications. Greenville County reserves the right to add or reduce quantities as needed. Quantities are estimated. Special attention will be necessary during construction to limit disturbance to any landscaping on private properties.

2. **Definitions:** For this contract, the definitions and terms contained in the "South Carolina State Highway Department Standard Specifications for Highway Construction, Edition of 2007", shall apply with the following exceptions:

<b><u>SECTION</u></b>	<b><u>EXCEPTIONS</u></b>
101.3.12	does not apply.
101.3.17	Pay items shown on the itemized bid sheet may not necessarily coincide with standard pay items used by SCDOT. The seven digit item number system does not apply.
101.3.24	DEPARTMENT refers to Greenville County Public Works Department.
101.3.26	DIRECTOR refers to the County Public Works Director, the County Administrator or the County Engineer.
101.3.27	ENGINEER refers to the County Engineer or his/her duly authorized

	representative.
101.3.28	Does not apply.
101.3.70	STATE HIGHWAY ENGINEER refers to the County Engineer or his/her duly authorized representative.
102.5	The Electronic Bidding System does not apply.
102.9	The Bid bond shall be submitted per Greenville County Purchasing Department requirements and procedures.
102.10	Does not apply.
102.11	Each proposal shall be submitted to Greenville County Purchasing Department.
103 (all parts)	The award and execution of the contract shall comply with Greenville County Purchasing Department requirements and procedures.
104.02	SCDOT Form No. 616 does not apply, but contractor shall submit notification in writing to the County Engineer.
104.03	Does not apply.
104.08	Applies to all work areas, on and off the right of way.
104.10	Applies to all work areas, on and off the right of way.
105.08	The Department will not provide construction stakes, lines and grades; the Contractor is responsible for providing all construction layout and control.
105.09	RCE Representative refers to County Engineer duly authorized representative, Inspector or Project Manager.
105.11	Third paragraph, first sentence, does not apply. The County Engineer will not provide lines and grades; the Contractor is responsible for providing all construction layout, control points, Lines and grades as necessary to properly construct the project.
105.16	Claims and disputes are to be handled by the Greenville County Purchasing Department, per Purchasing Department requirements and procedures.
106.06	Prior to storing construction materials, equipment, debris, or soil stockpiles on private property, the Contractor shall provide the Engineer with copies of written permission from the private property owner(s) allowing the contractor to use their property.
109.07	Monthly partial payment periods will end on the last day of the month.
201.01	Clearing and grubbing applies to all proposed construction areas/routes shown on the plans, on and off the right of way.
201.02	The Engineer will not establish the right of ways or construction lines. A walkthrough will be conducted during the preconstruction meeting to identify the general construction limits and designate which trees, vegetation, and other items are to remain and which are to be removed.
201.05	Payments for clearing and grubbing will be based on the percentage of clearing and grubbing work completed during the partial payment

- period.
- 202.06 Pipe removal shall include excavation, removal, disposal, backfill, and finish grading of the disturbed area.
- 202.07 Pipe removal, including all tasks listed above, will be paid for at the unit price for pipe removal in the bid.
- 203.01 Applies to all work areas, on and off the right of way.
- 203.02 This item shall be included in clearing & grubbing and/or finish grading and grassing, and will not be considered a separate pay item.
- 203.2.1.2 Does not apply.
- 203.2.1.3 Also applies to trench excavation.
- 203.2.1.4 This item shall be included in clearing and grubbing, and will not be considered a separate pay item.
- 203.2.1.5 This item shall be included in the unit prices for pipe, CBs, and/or JBs, and will not be considered a separate pay item.
- 203.2.1.6 This item shall be included in clearing and grubbing, rip rap, and/or finish grading and grassing, and will not be considered a separate pay item.
- 203.5 Excavation will be Borrow, Muck, or Rock, measured in cubic yards. All other excavation shall be included in other pay items as stated previously.
- 203.6 Borrow, Muck, and Rock excavation will be paid for at the unit prices on the bid.
- 207 (all parts) Does not apply. It shall be the Contractor's responsibility to haul and/or stockpile locally excavated material as necessary to accomplish the work.
- 808 (all parts) This item shall be included in clearing and grubbing, and will not be considered a separate pay item. The contractor is responsible for removing/relocating all obstructions interfering with the pipe installation and/or which may be adversely affected by the proximity of the excavation, equipment, or construction activity.

3. **Purchasing Procedures:** The "County of Greenville, South Carolina, Purchasing\Financial Regulations and Procedures Manual", adopted June 17, 2003, and all amendments thereafter, by the Greenville County Council shall govern purchasing procedures. The County reserves the right to reject any and all bids for this project.
4. **Licenses:** The Contractor must be a licensed general contractor in the State of South Carolina and must possess a valid South Carolina Bidder's License.
5. **Permits:** All work shall be subject to the applicable permitting requirements of County, State, and Federal agencies. Clearing, grading, and erosion control measures shall comply with the Greenville County Storm water Management Ordinance.

6. **Warranty:** All materials and workmanship must be free of defects for a period of one year from the date of completion of all contract work specified herein. By acceptance of the contract, the Contractor agrees promptly to repair, to the satisfaction of the County Engineer, any defects in materials or workmanship at the Contractor's expense.
7. **Scheduling, Notification, & Coordination:** The Contractor shall develop and maintain a proposed schedule of work to submit to Greenville County. The schedule shall be provided in a **bar-chart** format listing the sequence of project activities within the contract time frame. The schedule shall be updated monthly and submitted to Greenville County.

The contractor shall notify the County at least 7 days prior to beginning work.

The contractor shall be responsible for coordinating with all utilities which will be impacted by the project, or have easements in the work area. The contractor shall provide the County with copies of all correspondence and telephone transcripts with the utility providers. The contractor shall be responsible for coordinating with the Piedmont Utility Protection Service and/or the utility providers for locating underground utilities before digging. The contractor shall be responsible for all damage to existing utilities caused by the contractor's crews and machinery, or subcontractors' crews and machinery. The contractor shall be responsible for designating a staging area and provide the County with a copy of the agreement for the use of that area.

8. **Contract Time:** All work phases specified herein must be completed as stated on the Project Description Sheet, **from notice to proceed**. If the contractor fails to satisfactorily complete the work within the specified time, liquidated damages of **\$250.00** per calendar day shall be assessed up to value of the contract (total bid). The penalty may be drawn from any payment due, or the performance bond, at the discretion of the County.
9. **Working Days:** The Contractor may work any calendar day that weather permits, excluding Sundays.
10. **Incorporation of Documents:** All documents, forms, specifications or other published items included by reference in these special provisions shall be considered incorporated herein and shall be a part of this document. All items incorporated herein are available for review in the Greenville County Purchasing Department.
11. **Contact Agencies:**  
Greenville County Land Development – Judy Wortkoetter, PE 467-4610  
Greenville County Land Development – Quinn Martin, 467-5945  
Greenville Water System – Steve Blakeney, 241-6000  
Metropolitan Sewer District - Robert Arms, 277-4442



REWA – Andre Mathis, 299-4020  
Laurens Electric Cooperative, Inc. – Larry Patterson, 476-6917  
Duke Power Company -Tim Castle, 834-6531  
AT & T Engineering Dept. - Engineering Dept., 298-0700  
Charter Communication – Derry Rollins, 254-7260

12. **Roadway Damage:** Any damage which occurs to existing pavement, curbs, or drainage structures (in areas not already designated as part of the construction project) from the contractor's or subcontractors' tracked equipment or other machinery shall be repaved and/or repaired by the contractor at his expense to the County's satisfaction.
13. **Pre-Bid Meeting:** A pre-bid meeting is scheduled for this project.
14. **Pre-Construction Conference:** A pre-construction conference will be scheduled for the chosen contractor to discuss any special concerns. The chosen contractor shall provide the proposed work schedule to the County at the pre-construction conference. The County and utility providers affected by the work will be part of the conference. A date and time for the conference shall be determined once the bids have been received and a contract awarded.
15. **County Engineer Authority:** The County Engineer shall give all orders and directions contemplated under this contract and specifications relative to the execution of the work. The Engineer shall determine the amount, quality, acceptability, and fitness of the several kinds of work and materials which are to be paid for under this contract and shall decide all questions which may arise in relation to said work and the construction thereof. The County Engineer's estimates and decisions shall be final and conclusive. The contractor agrees, if any questions arise between the parties hereto relative to said contract or specifications, the determination or decision of the County Engineer shall be a condition precedent to the right of the Contractor to receive any money or payment for work under this contract affected in any manner or to any extent by such question.  
  
The County Engineer shall decide the meaning and intent of any portion of the specifications and of any part or drawings where the same may be found obscure or be in dispute. Any difference or conflicts in regard to their work, which may arise between the Contractor under this contract and other contractors performing work for the County, shall be adjusted and determined by the County Engineer.
16. **Method of Measurement and Basis of Payment:** The quantity of work completed for all items shall be measured in accordance with the units indicated in each section of the specifications. The quantities will be paid for at the contract unit price bid for the items listed on the itemized bid form. Said prices and payments shall be full compensation for furnishing all materials, labor, tools, equipment, supplies and incidentals necessary to

complete the work. All work shall be performed in a neat and workmanlike manner. All quantities listed herein are estimated. The County reserves the right to increase or decrease all quantities as indicated herein without limit at any change in the unit bid price. Progress payments made to the contractor are not to be considered as a final acceptance.

Retainage on monthly progress payments will be ten (10%) percent of approved monthly invoices until satisfactory completion of the contract.

## 17. SPECIFICATIONS

- **Definition:** Specifications pertain to written standards and requirements for materials, construction procedures, testing, quality control, and workmanship to be provided for the project. The specifications to be used for the project shall include, but are not be limited to the following:
- **SCDOT Standard Specifications:** The 2007 edition of the South Carolina State Highway Department Standard Specifications for Highway Construction will apply, except where Greenville County Standard Specifications state otherwise (see below).
- **Greenville County Standard Specifications:** Greenville County Standard Specifications shall take precedence over the 2007 edition of the South Carolina State Highway Department Standard Specifications for Highway Construction whenever there is a conflict between the two specifications. The County standard specifications are included herein for the following:  
  
Erosion Control (02270)  
Paving (02510)  
Paving (02510)  
Lawns & Grassing (02930)
- **Construction Plans:** CCAD Engineering was the design engineer farm for Hunters Ridge Subdivision; address 803 Roper Creek Drive- Greenville, SC 29615 , phone number (864) 250-9999. Additional specifications are shown as notes, text, and details on the project plans.
- **Unspecified Items:** Any items shown in the construction plans, which are not covered, in the above specifications shall comply with typical accepted construction standards, subject to the discretion and interpretation of the **County Engineer**. The Contractor is responsible for providing any items shown on the plans but not listed in the itemized bid sheet, at no additional cost to the County.

**BIDDER QUALIFICATION QUESTIONNAIRE  
HUNTERS RIDGE SUBDIVISION  
IFB #65-04/06/16**

Submitted by \_\_\_\_\_  
(NAME OF BIDDER)

SC General Contractor's License # \_\_\_\_\_  
( ) A Partnership ( ) A Corporation ( ) an Individual

Federal Identification # \_\_\_\_\_

Principal Office Address & Phone Numbers:

\_\_\_\_\_  
\_\_\_\_\_

(1) How many years has your organization been in business as a contractor under your present name?

\_\_\_\_\_

(2) How many years experience in construction work has your organization had as a general contractor?

\_\_\_\_\_

As a subcontractor?

\_\_\_\_\_

(3) List below the requested information concerning projects your organization has completed in the last five (5) years for the type of work required in this project. (Use additional sheets if necessary)

<u>Project Title</u>	<u>Contract Amount</u>	<u>Required Completion Date</u>	<u>Actual Completion Date</u>	<u>Name/Address/Phone Of Owner</u>
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_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

**BIDDER QUALIFICATION QUESTIONNAIRE  
HUNTERS RIDGE SUBDIVISION  
IFB #65-04/06/16**

(4) Have you ever failed to complete any work awarded to you? If so, where and why?

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(5) Has any officer or partner of your organization ever been an officer or partner of some other organization that failed to complete a construction contract or was issued a Stop Work Order? If so, state the name of the individual, the name of the organization, and reason therefore.

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(6) Has any officer or partner of your organization ever failed to complete a construction contract handled in his/her own name? If so, state the name of the individual, the name of the owner and reason therefore.

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(7) Below, please give any information which; would indicate the size and capacity of your organization, including number of employees, equipment owned by your organization, etc., which are available for utilization on this contract.

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(8) What is your bonding capacity? \_\_\_\_\_

(9) What amount of your bonding capacity has been used as of the date of this bid?

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(10) How many applications for performance & payment bonds have you made in the last three (3) years?

**BIDDER QUALIFICATION QUESTIONNAIRE  
HUNTERS RIDGE SUBDIVISION  
IFB #65-04/06/16**

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(11) How many of these applications were not approved?

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(12) Have any claims been filed against a bond provided for you by your surety bond company in the last five (5) years? If so, describe the nature of the claims and give the names of the surety companies, dates of each claim, identifying numbers of each claim, amounts of each claim and the status of each claim. (Use additional sheets if necessary)

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(13) Has your company been in disputes or litigations in the last five (5) years over construction projects which are completed or still pending completion? If so, describe the nature of the disputes or litigations and state the owner's name, address, telephone and amount of dispute or litigation. (Use additional sheets if necessary)

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I, the undersigned, do hereby declare that the foregoing statements are true and correct, all as of the date hereinafter set forth, and that those examining this document have my permission to contact any or all of those parties listed in this questionnaire. Incorrect or misleading statements in this questionnaire shall be grounds for a determination of non-responsibility with respect to such contractor.

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**(SIGNATURE OF BIDDER)**

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**(TYPE OR PRINT COMPANY NAME)**

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**(TYPE OR PRINT ADDRESS)**

STATE OF SOUTH CAROLINA )  
COUNTY OF GREENVILLE )

## CONSTRUCTION AGREEMENT

THIS AGREEMENT is made and entered into on this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between the **COUNTY OF GREENVILLE**, a political subdivision of the State of South Carolina, having its principle place of business at 301 University Ridge, Greenville, S.C. 29601 ("**COUNTY**"), and \_\_\_\_\_, located at \_\_\_\_\_ ("**CONTRACTOR**").

IN CONSIDERATION of the covenants hereinafter set forth, the parties mutually agree as follows:

1. **CONTRACT PERIOD**

This Agreement shall begin on the date the NOTICE TO PROCEED is issued by **COUNTY**. All work phases specified herein must be completed no later than sixty (60) calendar days from the effective date of the Notice to Proceed. If the **Contractor** fails to satisfactorily complete the work within the specified time, liquidated damages of \$250.00 per calendar day shall be assessed up to value of the contract (total bid). The penalty may be drawn from any payment due, or the performance bond, at the discretion of the **County**.

2. **PROJECT SCOPE**

**COUNTY** has employed **CONTRACTOR** to provide services to bring the Hunters Ridge Subdivision located off Foot Hills Road to Greenville County Land Development Regulation Standards. The services to be provided by **CONTRACTOR** are more particularly described in **COUNTY'S** IFB #65-04/06/16 and in **CONTRACTOR'S** response to IFB #65-04/06/16 received \_\_\_\_\_, which are both attached hereto and incorporated herein by reference. **CONTRACTOR** acknowledges that it is an independent contractor and that it will at all times act as such. Nothing in this Agreement shall be deemed to constitute **CONTRACTOR** or any of its employees as the agent, representative or employee of **COUNTY**, or create a joint venture between the parties.

3. **PAYMENT TERMS**

3.1 **COUNTY** agrees to pay **CONTRACTOR** for the services described in the Project Scope an amount not to exceed \_\_\_\_\_.

3.2 **CONTRACTOR** will submit monthly invoices to the **COUNTY**. Such invoices shall include a detailed listing of charges. **COUNTY** shall notify **CONTRACTOR** within ten (10) days of receipt of invoice of any dispute with the invoice and **CONTRACTOR**, upon such notice, shall provide back-up data to **COUNTY**. **COUNTY** and **CONTRACTOR** will, thereafter, promptly resolve any disputed items. Payment on undisputed invoice amounts is due upon receipt of invoice by **COUNTY** and is past due thirty (30) days from the date the invoice is received. If payment on undisputed invoice amounts remains past due sixty (60) days from the date the invoice is received by **COUNTY**, then **CONTRACTOR** shall have the right to either suspend all work under this Agreement, without prejudice, or terminate this Agreement in

accordance with the provisions of Section 13.2. **COUNTY** shall, prior to making payment on any invoice, withhold ten (10%) percent from any payment due. The amounts so withheld shall be released to **CONTRACTOR** upon satisfactory completion of the Project.

3.3 Approval and/or payment of such invoices shall not in any way relieve **CONTRACTOR** of its liability to **COUNTY** for deficiencies in the performance of its services. **COUNTY'S** approval or acceptance of, or payment for any of the services shall not operate as a waiver of any rights to which **COUNTY** may be entitled.

3.4 **NO INTEREST OR OTHER LATE PENALTIES SHALL ACCRUE ON LATE PAYMENTS.**

3.5 **IT IS UNDERSTOOD AND AGREED BY THE PARTIES THAT IN THE EVENT FUNDS ARE NOT APPROPRIATED IN THE CURRENT FISCAL YEAR OR ANY SUBSEQUENT FISCAL YEAR, THIS CONTRACT WILL BECOME NULL AND VOID AND THE COUNTY WILL ONLY BE REQUIRED TO PAY FOR SERVICES COMPLETED TO THE SATISFACTION OF THE COUNTY.**

#### 4. **CHANGES**

4.1 **COUNTY** may, at any time, in writing, and within the general scope of this Agreement, make "Request for Changes" in the services or work to be performed. In the event **CONTRACTOR** is requested to perform additional services or work not contemplated by this Agreement, **CONTRACTOR** will promptly notify **COUNTY** if such change causes an increase in **CONTRACTOR'S** cost of, or time required for, performance of any services under this Agreement, an equitable adjustment shall be made and this Agreement shall be modified in writing accordingly. In the event **CONTRACTOR** is requested to reduce the performance of services or scope of work, such request must be in writing. In the event **CONTRACTOR** is requested to reduce the performance of services or scope of work **COUNTY** shall be entitled to a decrease in the amount of compensation to be paid to **CONTRACTOR** accordingly.

4.2 All change orders must be in writing to be valid, and no services for which any additional compensation will be charged by **CONTRACTOR** shall be furnished without the written authorization of **COUNTY**.

4.3 **COUNTY** may add to or reduce the scope of work by generating mutually agreed upon contract exhibits to this basic agreement.

#### 5. **WARRANTIES**

In addition to any express and/or implied warranties provided to **COUNTY** by law, **CONTRACTOR** warrants to **COUNTY** that the performance of the services covered by this Agreement will be competent to perform the tasks undertaken, that the product of such paving services will yield only first-class results, that materials and equipment furnished will be of good quality and new unless otherwise permitted by this Agreement, and that the work

will be of good quality, free from faults and defects and in strict conformance with this Agreement. All work not conforming to these requirements may be considered defective. In the event any of the work is found to be defective or not in accordance with this Agreement within one (1) year after completion of the contract services, **CONTRACTOR** will promptly correct the work without additional compensation from **COUNTY**, upon written notice from **COUNTY**. All corrective work shall be completed within thirty (30) days of receipt of written notice from **COUNTY**. Establishment of the one year time period in this section relates only to the duty of **CONTRACTOR** to specifically correct the work.

6. **WITHHOLDING PAYMENT**

**COUNTY** has the right, but not the obligation, to withhold funds to the extent and only to the extent necessary to protect **COUNTY** from loss because of:

- a) Defective work not remedied by **CONTRACTOR** within a reasonable time or for which **CONTRACTOR** has failed to initiate a remedy within a reasonable time;
- b) Claims of third parties against **COUNTY** or **COUNTY'S** property for which **CONTRACTOR** is liable;
- c) Failure by **CONTRACTOR** to pay subcontractors or others in a prompt and proper fashion the amounts due and owing to such subcontractor or others relating to the Project.
- d) Evidence that the balance of the work cannot be completed in accordance with this Agreement for the unpaid balance of the Contract Price;
- e) Evidence that the work will not be completed in the time required for final completion;
- f) Persistent failure to carry out the work in accordance with this Agreement, or
- g) Damage to the **COUNTY** or a third party to whom the **COUNTY** is, or may be, liable and for which **CONTRACTOR** is liable pursuant to the terms of this Agreement.

7. **RIGHT TO STOP WORK**

In the event **CONTRACTOR** fails to perform the work in accordance with this Agreement, **COUNTY** may order **CONTRACTOR** to stop the work and **COUNTY** may then perform the work in accordance with Section 8, below, or terminate this Agreement in accordance with Section 13.1.2. In such event, **CONTRACTOR** shall immediately obey such stop work order.

8. **COUNTY'S RIGHT TO PERFORM WORK**

In the event **CONTRACTOR'S** work is stopped pursuant to Section 7, above, entitled "Right to Stop Work", and **CONTRACTOR** fails to provide adequate assurance to **COUNTY**, within seven (7) days of such stoppage, that the cause of such stoppage will be eliminated or corrected, then **COUNTY** may proceed to carry out the subject work or terminate this Agreement. In such a situation, an appropriate Change Order shall be issued deducting from the Contract Price the documented and agreed to cost of correcting the deficiencies, including any professional services and expenses necessitated thereby. If the unpaid portion of the Contract Price is insufficient to cover the amount due **COUNTY**, **CONTRACTOR** shall pay the difference to **COUNTY**; provided, however if **COUNTY** stops the work, takes over a portion of or all of the work and performs the work, then



**CONTRACTOR'S WARRANTY OBLIGATIONS** relating to such work performed by **COUNTY** shall be null and void.

9. **INDEMNIFICATION.**

**CONTRACTOR** agrees to assume responsibility for any damage, loss, or injury, including death, of any kind or nature whatever to person or property, including employees and property of **COUNTY**, caused by or resulting from any negligent act or omission of **CONTRACTOR** or its subcontractors or any of their officers, agents, servants, or employees arising from the performance of the work under this Agreement. **CONTRACTOR** shall defend, indemnify, and hold harmless **COUNTY** and all of its officers, agents, servants, or employees from and against any and all claims, loss, damage, charge, or expense to which they or any of them may be put or subjected by reason of any such damage, loss, or injury. **CONTRACTOR** expressly agrees to defend against any claims brought or filed against **COUNTY**, where such claim or action involves, in whole or in part, the subject of the indemnity contained herein, whether such claims or actions are rightfully or wrongfully brought or filed.

10. **INSURANCE.**

The contractor is responsible for and must have all required insurance listed below and shall not commence work under the associated contract until it has obtained all insurance required, and the County has approved such insurance in writing, nor shall the Contractor allow any subcontractor to commence work on its subcontract until all similar insurance required of the subcontractor has been obtained. All insurance policies shall be maintained for the life of the contract.

A. **THE COUNTY SHALL BE NAMED AS "ADDITIONAL INSURED" FOR ITS INTEREST**

on all policies of insurance, except Worker's Compensation, Auto Liability and Professional Errors and Omissions, regarding ongoing operations, products and completed operations, and this shall be noted on the face of the Certificate of Insurance. As a part of the certificate of insurance requirement the contractor shall also include acknowledgement and acceptance of the waiver of subrogation provision granted to the County of Greenville. This acknowledgement and acceptance should be included in the same section of the Certificate of Insurance that evidences the "Additional Insured" provision.

B. Certificates for all such policies of insurance shall be provided by the **Contractor's** insurance agent or broker to the **County** within 10 working days from the date of Notice of Award.

C. All Certificates of Insurance submitted shall provide on the face of the certificate reference to County's IFB #65-04/06/16.

D. **Contractor** will provide **County** a minimum of 30 days advance notice in the event the insurance policies (or an insurance policy) is canceled.  
Subcontractors approved to perform work on this project are subject to all of the requirements in this Section.

- E. **Contractor** agrees to maintain and keep in force during the life of this Agreement, with a company or companies authorized to do business in South Carolina, the following insurance policies:

**Comprehensive General Liability:**

1,000,000 per occurrence - combined single limit / \$2,000,000 general aggregate, to include products and completed operations.

**Automobile Liability:**

\$1,000,000 per occurrence - combined single limit (Coverage shall include bodily injury and property damage and cover all vehicles including owned, non-owned and hired)

**Statutory Worker's Compensation:**

Coverage A - State of SC

Coverage B - Employers liability

\$1,000,000 Each Accident

\$1,000,000 Disease, Per Employee

\$1,000,000 Disease, Policy Limit

Policies shall contain a waiver of subrogation in favor of and/or that applies to the County of Greenville, its departments, agencies, boards, employees, and commissions for losses from work performed by or on behalf of the contractor.

**No deviation from these coverages will be accepted unless, in the County's sole discretion, it is more advantageous to the County, i.e., \$1,000,000 - a \$2,000,000 or \$5,000,000 limit would be acceptable.**

11. **PERFORMANCE AND PAYMENT BOND**

**Contractor** shall furnish a satisfactory Performance and Payment Bond in the amount of the total contract price no later than fifteen (15) business days after the date of the Notice of Award. The Bond must have approval by the County Attorney's Office before it is made effective. The **Contractor** shall have as surety a corporate surety authorized to act as surety in South Carolina. The Performance and Payment Bond shall remain in effect for one year after completion of the contract.

12. **ILLEGAL IMMIGRATION REFORM ACT COMPLIANCE**

By submitting an offer, **Contractor** certifies that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws (originally enacted as Section 3 of The South Carolina Illegal Immigration Reform Act, 2008 S.C. Act No. 280) and agrees to provide upon request any documentation required to establish either: (a) the applicability of Title 8, Chapter 14 to **Contractor** and any subcontractors or sub-subcontractors; or (b) the compliance with Title 8, Chapter 14 by **Contractor** and any subcontractor or sub-subcontractor. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." **Contractor** agrees to include in any contracts with its

subcontractors language requiring the subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in any contracts with the sub-subcontractors language requiring the sub-subcontractor to comply with the applicable requirements of Title 8, Chapter 14. In the event any contractor, subcontractor and/or sub-subcontractor is found not to be in compliance with the SC Immigration Reform Act [hereinafter "The Act"], the contractor agrees to fully indemnify the County for any loss suffered by the County as a result of such contractor, subcontractor or sub-subcontractor's failure to comply with the Act.

13. **TERMINATION**

13.1 **TERMINATION BY COUNTY**

13.1.1 This Agreement may be terminated by **COUNTY** upon fifteen (15) days written notice at **COUNTY'S** election. In the event of termination at **COUNTY'S** election and not due to the fault of **CONTRACTOR**, **CONTRACTOR** will be paid only for the work actually completed to the satisfaction of the **County** as of the date of termination.

13.1.2 Should **CONTRACTOR** default or persistently fail or neglect to carry out the work in accordance with the terms of this Agreement, **COUNTY** may by written notice to **CONTRACTOR**, without prejudice to any other right or remedy under this Agreement, terminate the employment of **CONTRACTOR** and take possession of the site and all materials, equipment, tools and construction equipment and machinery thereon owned by **CONTRACTOR** as well as all drawings, plans and specifications and finish the work by whatever methods **COUNTY** may deem expedient; provided, however, prior to such termination, **CONTRACTOR** shall be given notice of the default and an opportunity to cure such default within seven (7) days. Such termination shall be deemed "for cause". Should this Agreement be terminated "for cause", **CONTRACTOR** shall not be entitled to any further payment. In the event the actual and documented cost of finishing the work, including compensation for professional services and expenses made necessary thereby, if any, exceed the unpaid balance, **CONTRACTOR** shall pay the difference to **COUNTY**. This obligation for payment shall survive the termination of this Agreement.

13.2 **TERMINATION BY CONTRACTOR**

Should **COUNTY** fail to make payment on any undisputed invoice amount within sixty (60) days of receipt of such invoice, **CONTRACTOR** may elect to either suspend the work or terminate this Agreement; provided, however, prior to termination, **COUNTY** shall be given notice of the default and an opportunity to cure such default within seven (7) days. Should this Agreement be terminated by **CONTRACTOR**, **CONTRACTOR** shall be entitled to be paid only for the work actually completed to the satisfaction of the **County** as of the date of termination.

14. **CLEANING THE SITE AND SAFETY**

14.1 **CONTRACTOR** shall keep the site reasonably clean during performance of the work. **CONTRACTOR** shall dispose of all refuse at a South Carolina DHEC approved landfill.

14.2 **CONTRACTOR** shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury or loss to (1) employees on the job and other persons who may be affected thereby; (2) the work and materials and equipment to be incorporated herein; and (3) other property at or adjacent to the site.

14.3 **CONTRACTOR** shall give notices and comply with all laws, ordinances, rules, regulations and orders of public authorities bearing on the safety of persons and property and their protection from damage, injury or loss.

15. **ASSIGNMENT**

This Agreement shall not be assigned by either party without the prior written consent of the other party.

16. **SUBCONTRACTS**

16.1 **CONTRACTOR** shall promptly furnish to **COUNTY**, in writing, the bid list proposed by **CONTRACTOR** to act as subcontractors on the Project. **COUNTY** shall, within seven (7) days, reply to **CONTRACTOR**, in writing, stating any objections **COUNTY** may have to such proposed subcontractors. **CONTRACTOR** may enter into a subcontract with any subcontractor on the approved bid list. **CONTRACTOR** shall not be required to enter into a subcontract with any subcontractor to whom **CONTRACTOR** has objection.

16.2 All subcontractors shall provide performance and payment bonds in accordance with bonding requirements set forth in the Greenville County procurement policies and shall name **COUNTY** as an additional obligee on such bonds.

16.3 All subcontractors will be required to furnish Certificates of Insurance to the **County** in accordance with all of the requirements set forth in Section 10 of this Agreement.

17. **NOTICES**

All notices made pursuant to this Agreement shall be in writing and delivered personally or sent by registered or certified mail, return receipt requested, to the parties at their respective addresses set forth below:

**COUNTY**

Nadine Chasteen, CPPO, CPPB  
Director  
County of Greenville  
Procurement Services Division  
301 University Ridge, Suite 100

**CONTRACTOR**

Greenville, SC 29601

Any party may change the person to whom notices are to be sent by giving ten (10) days written notice of such change to the other party.

18. **APPLICABLE LAW AND VENUE**

18.1 The construction, interpretation and performance of this Agreement shall be governed by and construed in accordance with the laws of the State of South Carolina.

18.2 **CONTRACTOR** and **COUNTY** further agree that this Agreement shall be deemed to have been made and performed in Greenville County, South Carolina. For the purposes of venue, all suits or causes of action arising out of this Agreement shall be brought in the courts of Greenville County, South Carolina.

19. **COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS**

**CONTRACTOR** shall comply with all federal, state and local statutes, ordinances and regulations, and shall obtain all permits that are applicable to this Agreement.

20. **SUCCESSORS AND ASSIGNS**

**CONTRACTOR** and **COUNTY** each binds itself and its partners, successors, executors, administrators and assigns to the other party of this Agreement and to the partners, successors, executors, administrators, and assigns of such other party, in respect to all covenants of this Agreement.

21. **SEVERABILITY**

Should any section, paragraph, clause, phrase, or provision of this Agreement be adjudged invalid or held unconstitutional by a court of competent jurisdiction, such declaration shall not affect the validity of this Agreement as a whole or any part or provision thereof, other than the part so decided to be invalid or unconstitutional.

22. **ENTIRE AGREEMENT**

This Agreement, along with the provisions contained in **COUNTY'S** IFB #65-04/06/16, and **CONTRACTOR'S** RESPONSE TO IFB #65-04/06/16, attached hereto, represents the entire agreement between the parties and supersedes any and all prior agreements, whether written or oral, that may exist between the parties regarding same. If there is a conflict between any of the terms of these contract documents the order of precedence of these contract documents shall be:

- A. Any Change Order or Amendment signed and executed by the parties;
- B. This Agreement;
- C. **CONTRACTOR'S** RESPONSE TO IFB #65-04/06/16
- D. Addenda to **COUNTY'S** IFB# 65-04/06/16
- E. **COUNTY'S** IFB #65-04/06/16.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date hereinabove written.

**WITNESSES:**

\_\_\_\_\_  
\_\_\_\_\_

**CONTRACTOR**

By: \_\_\_\_\_  
Its: \_\_\_\_\_

**COUNTY**

By: \_\_\_\_\_  
Bob Taylor, Chairman  
Greenville County Council

By: \_\_\_\_\_  
Joseph M. Kernell  
County Administrator

**ATTEST:**

\_\_\_\_\_  
Theresa B. Kizer, c.c.c.  
Clerk to Council



**Hunters Ridge Subdivision**

**IFB #65-04/06/16**

**ATTACHMENTS**

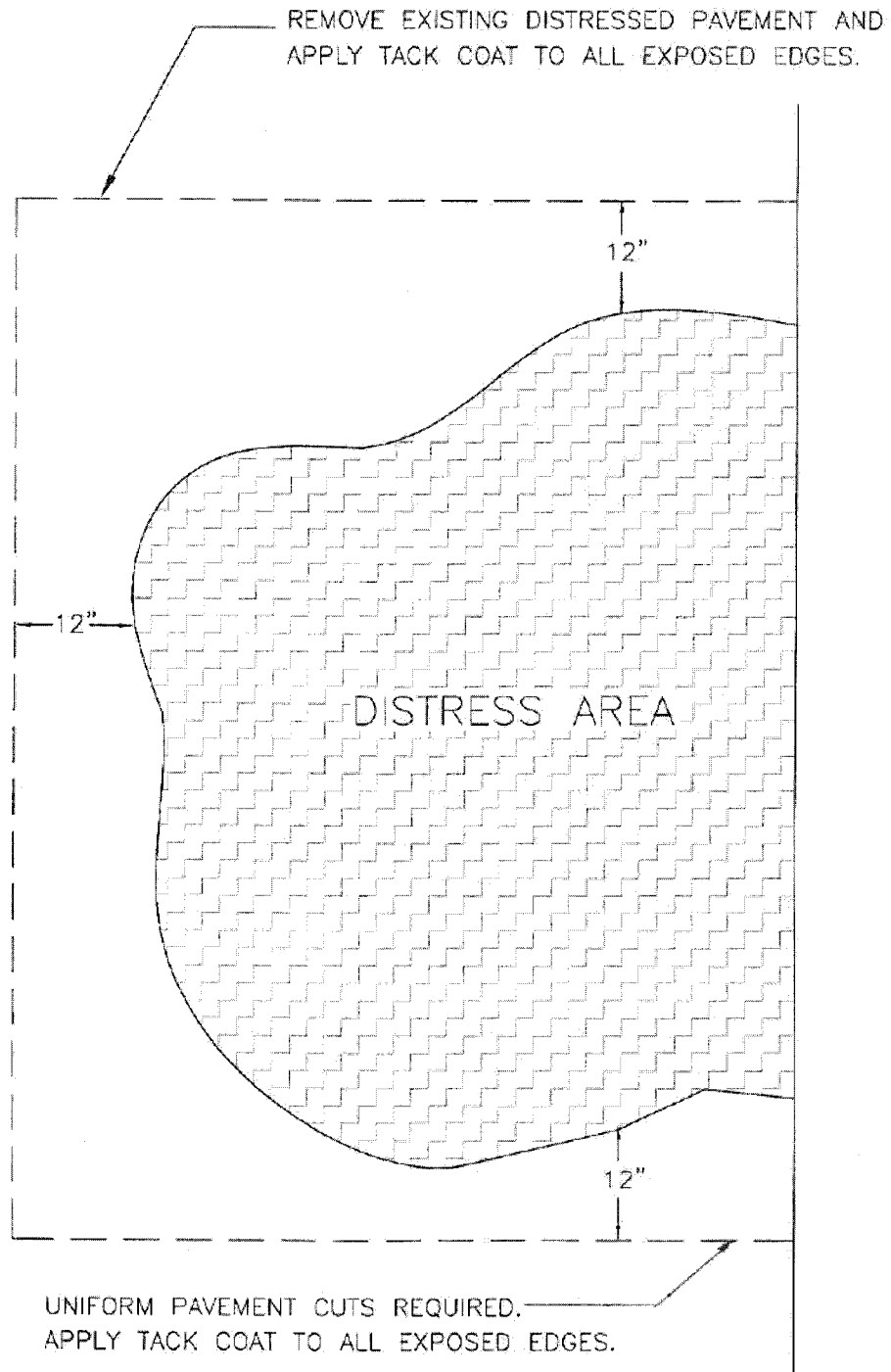
<b>Attachment One</b>	<b>Full-Depth Patching Detail</b>	<b>1 Page</b>
<b>Attachment Two</b>	<b>Shouldering</b>	<b>1 Page</b>
<b>Section 02270</b>	<b>Erosion Control</b>	<b>3 Pages</b>
<b>Section 02510</b>	<b>Asphalt Paving</b>	<b>3 Pages</b>
<b>Section 02520</b>	<b>Concrete Paving and Curbs</b>	<b>5 Pages</b>
<b>Section 02930</b>	<b>Lawns and Grassing</b>	<b>4 Pages</b>

**HUNTERS RIDGE SUBDIVISION**

**IFB #65-04/04/16**

**STANDARD SKETCHES**

**ATTACHMENT ONE - FULL-DEPTH PATCHING DETAIL**





HUNTERS RIDGE SUBDIVISION

IFB #65-04/04/16

STANDARD SKETCHES

ATTACHMENT TWO - SHOULDERING

SHOULDER STABILIZATION

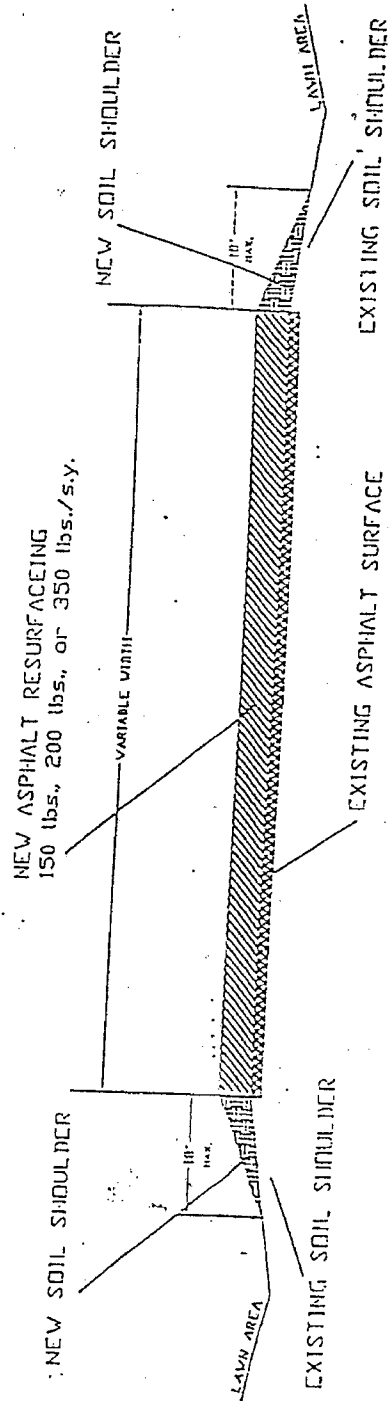


FIGURE 2

FIG. 2  
UNIT TO SCALE

RELATED DOCUMENTS: Attention is directed to related sections of the Specifications, as they pertain to the guidelines, materials, and methods described in this section. Also, the General Provisions and Special Provisions of the Contract shall apply to all Sections of the Work.

## 1.0 SCOPE

- a. General: The work includes the provision of temporary erosion control measures to prevent the pollution of air, water, and land. Installation of temporary erosion control features shall be coordinated with the construction of permanent erosion control features to assure effective and continuous control of erosion.

## 2.0 CONSTRUCTION

- a. Gravel Construction Entrance: Provide as indicated, a minimum of 6 inches thick, at points of vehicular entrance and exit on the construction site. Gravel shall be as specified in S.C. Highway Department, "Standard Specifications for Highway Construction", Section 305 for Composite Mixture Macadam Base Course.
- b. Dust Suppression: ASTM D-98 calcium chloride, magnesium chloride, or other standard manufacturer's products designed for dust suppression. Apply dust suppressors in accordance with manufacturer's instruction. Protect treated surfaces from traffic for a minimum of 2 hours after treatment. Repeat application of dust suppressors as required to control dust emissions.
- c. Sediment Fence: Install posts at the spacing indicated, and at an angle between 2 degrees and 20 degrees towards the potential silt load area. Do not attach filter fabric to existing trees. Secure filter fabric to the post and wire fabric using staples, wire, or hog rings. Imbed the filter fabric into the ground as indicated. Splice filter fabric into the ground as indicated. Splice filter fabric at the support pole using a 6 inch overlap and security seal. Top of the filter fabric shall have a 1 inch tuck or a reinforced top end section. Preassembled silt fences may be used as approved by the County Engineer.
1. Posts: 4 inch by 4 inch wood posts, minimum 3 inch diameter wood, or 1.33 pound per linear foot steel posts. Posts shall be minimum 5 feet long.
  2. Wire Fabric: ASTM A-185, 6 by 6, minimum 14 gage.
  3. Filter Fabric: A woven or nonwoven polypropylene, nylon, or polyester containing stabilizers and/or inhibitors to make the fabric resistant to deterioration from ultraviolet light. Filter cloth shall be of the type recommended by its manufacturer for the intended application.
  4. Straw Bales: Constructed from grain straw or hay with each bale bound together with binding wire or twine. Posts shall be ASTM A-615, 1-1/2 inch diameter wood posts or 1.0 pound per linear foot steel posts. Imbed the bottom row of bales in a 4 inch deep trench and place straw bales tightly abutting each other. Bales shall be placed so the bindings are horizontally oriented around the bales, wire adjoining bales together. Anchor each bale with two stakes, driving the first stake towards the previously laid bale. Wedge straw in gaps between bales. After the bales are staked, the excavated soil from the trench shall be backfilled against the straw bales to ground level on the downhill side and to 4 inches above ground level on the uphill side.
- d. Gravel Dam and Silt Trap: Provide as indicated, adjusting dimensions as directed by the County Engineer to fit grading and location.

1. Riprap: SCHD "Standard Specifications for Highway Construction", Section 804, Stone for Hand Placed Riprap and ranging in size from 3 inches to 6 inches.
  2. Filter Stone: #5 Washed Stone.
- e. Erosion Control Matting: Jute, excelsior, straw, or paper matting that has not been bleached or dyed. Provide matting in minimum 4 foot widths. Staples for anchoring the matting shall be minimum throat width of 1 inch minimum length of 6 inches after forming. Place matting in the direction of the flow of water. The up channel matting end shall be placed in a narrow trench a minimum of 5 inches deep. Where one roll of matting ends and a second roll begins, the end of the upper roll shall be brought over the buried end of the second roll to provide a 6 inch overlap. Where matting widths are laid side by side, the overlap between matting shall be 4 inches. Provide check slots every 50 feet longitudinally in the matting. Construct check slots by providing a narrow trench 5 inches deep and folding the matting down into the trench, across the bottom of the trench, and then back up the trench to the existing ground. Backfill and compact the trench using the excavated material from the trench. Staple matting ends, junctions, and check slots at 10 inches on center. Staple matting outer edges, overlaps and the center of each matting strip at 3 feet on center. Install excelsior matting with the woven fabric on top.
- f. Temporary Seeding: Within 48 hours after attaining the grading increment specified herein, provide seed, fertilizer, and mulch on graded areas when any of the following conditions occur:
1. Grading operations stop for an anticipated duration of 30 days or more.
  2. Provide on the slopes of cuts and fill slopes for every 5 foot increment of vertical height of the cut or fill.
  3. When it is impossible or impractical to bring an area to finish grade so that permanent seeding operations can be performed without serious disturbance from additional grading.
  4. When an immediate cover is required to minimize erosion, or when erosion has occurred.
  5. Provide on erosion control devices constructed using soil materials.
- g. Temporary Seeding Operations: Temporary seeding operations shall consist of the following:
1. Procedure: Loosen subgrade to a minimum depth of 4 inches. Uniformly apply the seed, fertilizer, and mulch at the specified rates. Roll the seeded area after applying seed and fertilizer. Do not seed or fertilize when the County Engineer determines conditions are unfavorable. Provide water to promote turf growth.
  2. Seed: Provide certified seed type and quantity (pounds per acre) as follows:
- | SEED TYPE      | MAY 1 - SEPT. 1 | SEPT. 1 - MAY 1 |
|----------------|-----------------|-----------------|
| Annual Rye     | 100 lbs/Ac      | 150 lbs/Ac      |
| Common Bermuda | 50 lbs/Ac       | ---             |
3. Fertilizer: Apply 10-10-10 fertilizer at the rate of 1000 pounds per acre.
  4. Mulch: Spread hay or straw mulch at the rate of 1.5 tons per acre and anchor by crimping mulch with a disc. Provide in an air dried condition for placement with commercial mulch blowing equipment.

5. Alternate Bid: Temporary seeding shall be bid as an alternate bid item to be provided only as required above.
- h. Maintenance and Inspection: Inspect erosion control devices after each rainfall and daily during prolonged rainfall. Remove sediment deposits after each rainfall or when sediment reaches approximately one-half the barrier height or storage capacity. Immediately repair damaged erosion control devices and damaged areas around and underneath the devices. Maintain erosion control devices to assure continued performance for their intended function. Modify the erosion control plan as required to control problem areas noticed after each inspection.
- i. Clean Up: At the completion of the job, or when directed by the County Engineer, erosion control devices shall be removed. Erosion control devices and areas immediately adjacent to the device shall be filled (where applicable), shaped to drain and to blend into the surrounding contours, and grassed or landscaped as specified.

END OF SECTION

RELATED DOCUMENTS: Attention is directed to related sections of the Specifications, as they pertain to the guidelines, materials, and methods described in this section. Also, the General Provisions and Special Provisions of the Contract shall apply to all Sections of the Work.

## 1.0 SCOPE

- a. General: Work consists of providing all materials, labor and equipment required for complete installation of asphaltic pavement including subgrade preparation, base and surface courses, extruded concrete curb or curb and gutter with backfill, all as indicated on the drawings and/or specified herein.
- b. Replacement of Existing Pavement: The Contractor shall furnish all labor, materials, equipment, services and duties to replace and restore all existing pavements in streets, highways, paved shoulders, driveways or parking areas that are removed, destroyed or damaged by construction. Pavement replacement includes base course replacement as shown on the standard details.
- c. Replacement of Existing Curbs, Gutters, and Sidewalks: The contractor shall furnish all labor, materials, equipment, services and duties to replace and restore all existing curbs, gutters, and sidewalks that are removed, damaged or destroyed by construction.
- d. Standards for Replacement: In addition to other requirements of the Contract Documents, all removal and replacement of pavements, sidewalks, curbs and gutters in state, city and county roads shall comply with all requirements and provisions of the South Carolina Highway Department or the Local City or County Engineer's Office, as applicable. All such work shall be subject to inspection and approval by the South Carolina Highway Department or the Local City or County Engineer's Office.
- e. Traffic Control Requirements: The Contractor shall be responsible for conducting all work in street, roads, and highways in accordance with any and all Regulatory Authorities' current requirements. As a minimum, for any work in State Highways, the Contractor shall meet the requirements of Traffic Controls for Street and Highway Construction and Maintenance Operations, Part V of the South Carolina Manual on Uniform Traffic control Devices for Streets and Highways - 1982, latest revision.

## 2.0 APPLICABLE PUBLICATIONS

The latest editions of the following publications apply to the specifications to the extent indicated by references thereto:

- a. South Carolina State Highway Department Standard Specification for Highway Construction (SCSHDSSHHC).

## 3.0 SUBGRADE PREPARATION

- a. Preparation: Prior to constructing the base course, the subgrade shall conform to the grades indicated on the drawings and any holes, ruts or depressions shall be filled with approved material and compacted to requirements of SCSHDSSHHC.
- b. Frame, Cover, & Box Adjustment: The adjustment of water valve boxes and manhole frames and covers to grade to conform to the finished street grade and cross section shall be as follows:

1. Water Lines: Utility Contractor shall be responsible for setting all valve boxes to the proper height (finished grade of pavement) one time after base course has been placed. Valve boxes shall be set on a firm brick foundation a maximum of 24 hours prior to placement of finished surface course of the pavement. Any resetting of boxes, thereafter, shall be performed by the Paving Contractor at the time he applies the finished surface course. Any damage to water lines, valves, blow-offs or fire hydrants after the final setting of valve boxes by the Utility Contractor, shall be repaired or replaced by the Utility Contractor. It shall be the responsibility of the Utility Contractor to determine what caused the damage and recover any repair costs from the responsible party. Repair costs shall not be paid by the Owner.
  2. Sanitary Sewer Lines: Manholes and/or appurtenance may be set to finished grade any time after base course has been placed and shall remain the responsibility of the Utility Contractor. should a manhole and/or appurtenance be damaged after being set, it shall be the Utility Contractor's responsibility to repair or replace the manhole and/or appurtenances to finished grade. It shall be the responsibility of the Utility Contractor to determine what caused the damage to the manhole and/or appurtenance and recover any repair costs from the responsible party. Repair costs shall not be paid by the Owner.
- c. Certification: The subgrade shall be certified as required, by the Engineer prior to constructing base course.

#### **4.0 BASE COURSE**

- a. Stabilized Aggregate Base Course (with Primer): The base course thickness shall be as indicated on the drawings of stabilized aggregate base course Type 2, with MC-30 prime, when indicated, conforming to the requirements of Section 306, of the SCSHDSSHC except the entire paragraphs 306.15, 306.16, and 306.17 shall not apply.
- b. Hot Laid Asphaltic Aggregate Base Course: The base course compacted thickness shall be as indicated on the drawings conforming to the requirement in Section 310 of the SCSHDSSHC except the entire paragraph 310.07 shall not apply. Minimum Marshall stability shall be 1,000 pounds.
- c. Tack Coat: A tack coat shall be applied prior to the surface course when the asphalt aggregate base course is used. The application of the tack coat shall be as specified in subsection 401.22 of the SCSHDSSHC.
- d. Certification: Regardless of the type base course used, the Engineer shall certify, as required, before and after all prime and sealer applications.

#### **5.0 SURFACE COURSE**

- a. Thickness: The surface course shall be 2" (with stabilized aggregate base course) or 1 1/2" (with asphaltic aggregate base course) compacted thickness of hot laid asphaltic concrete surface course, Type 2, conforming to the requirements of Section 403 of the SCSHDSSHC, except paragraph 403.07 shall not apply.
- b. Weather Conditions: The surface course shall be applied in strict accordance with weather restrictions as specified in Section 401, paragraph 401.14 of the same applicable specifications.
- c. Joints: where new pavement abuts existing flexible pavement, cut back the existing surface course along uniform lines approximately 12 inches from the edge. Make a vertical cut and

extend cut full depth of the surface course. Prior to placing the surface course, paint the exposed edge of cold joints with a thin layer of bituminous tack coat.

- d. Certification: During pavement application, the Engineer shall conduct necessary field observations and complete a "Construction Inspection Certification" and submit a copy to the Greenville County Engineering Department.

#### **6.0 CONCRETE CURBS**

- a. Concrete Curbs: Concrete curbs shall be constructed as shown on the drawings. The material and installation shall be in accordance with applicable paragraphs of Section 720 of the SCSHDSSHC, and Section 02520.
- b. Backfilling Curbs: It shall be the Contractor's responsibility to make sure that stockpiled topsoil is sufficient for backfilling curbs or to reflect any additional backfilling cost in the bid.
- c. Throat & Lid Adjustment: The Contractor shall form the concrete curb to the throat of the catch basin and adjust lids and throats of catch basins to provide a 6 inch drainage opening.

#### **7.0 CLEAN UP**

- a. General Requirements: In addition to other provisions of the Contract Documents, materials, debris, and surplus excavation shall be removed from rights-of-way and work areas. The rights-of-way and work areas shall be left neat, clean and serviceable.

#### **8.0 PROJECT CLOSE OUT**

- a. General Requirements: The Contractor is responsible for maintaining all sanitary sewer frames and covers and water main valve boxes. Any frames, covers, or valve boxes damaged, displaced, misplaced, lost or broken during the paving operation will be replaced at the Contractor's expense.

END OF SECTION

CONCRETE PAVING AND CURBS  
SECTION 02520

RELATED DOCUMENTS: Attention is directed to related sections of the Specifications, as they pertain to the guidelines, materials, and methods described in this section. Also, the General Provisions and Special Provisions of the Contract shall apply to all Sections of the Work.

**1.0 SCOPE:**

- a. General Requirements: The Contractor shall furnish all labor, materials, formwork, equipment, and services required to complete all the concrete work shown on the drawings and specified herein, including all sidewalks, concrete pavements, ramps, and curbs.

**2.0 MATERIALS:**

- a. Delivery and Storage of Materials: Do not deliver concrete until vapor barrier, forms, reinforcement, embedded items, and chamfer strips are in place and ready for concrete placement. Concrete shall be stored so as to prevent deterioration or contamination. Aggregates shall be stored and handled so as to preserve the gradation and cleanliness of the material. Store reinforcement of different sizes and shapes in separate piles on racks raised above the ground to avoid excessive rusting. Protect from contaminants such as grease, oil, and dirt. Provide for accurate identification after bundles are broken and tags removed.
- b. Cement: Cement shall conform to the latest revised Standard Specification for Portland Cement, American Society for Testing and Materials, (ASTM) C-150, or Standard Specification for Blended Hydraulic Cements, ASTM C-595. Cement shall correspond to that cement on which the selection of concrete proportions was based.
- c. Aggregates: Concrete aggregates shall conform to the latest revised Standard Specifications for Concrete Aggregates, ASTM C-33. Maximum coarse aggregate size shall not be more than one-fourth the slab thickness.
- d. Water: All mixing water shall be clean and free from deleterious amounts of acids, alkalies, or organic materials.
- e. Expansion Joints: Expansion joint material where required shall be 1/2 inch thick asphalt-impregnated premolded fiber conforming to the latest Standard Specification for Preformed Expansion Joint Filler for Concrete, ASTM D-1752.
- f. Curing Compound: Curing compound shall conform to the latest revised Standard Specifications for Liquid Membrane-Forming compounds for Curing concrete, ASTM C-309.
- g. Admixtures: Air-entraining admixtures for concrete shall conform to the latest revised Standard Specifications for Air-Entraining Admixtures for Concrete, ASTM C-260.
- h. Concrete: All concrete shall have a minimum 28-day compressive strength of 3000 psi. Concrete shall be manufactured and delivered in accordance with the latest revised Standard Specification for Ready Mixed Concrete, ASTM C-94.



1. Minimum Cement Content: Concrete shall be produced with a minimum cement content of 520 lbs. per cubic yard and an entrained air content of 6% plus or minus 1-1/2% by volume.
  2. Maximum Slump: Maximum allowable concrete slump shall be 4 inches.
- i. General: All other materials used in the concrete shall conform to current applicable ASTM specifications.
  - j. Forms: Forms shall be of wood, plywood, or steel. Wood forms, for surfaces exposed to view in the finished structure and requiring a smooth finish, shall be plywood. For unexposed surfaces, undressed square-edge lumber may be used. Surfaces of steel forms shall be free from irregularities, dents, and sags.
  - k. Reinforcement: Metal reinforcement shall be provided in accordance with the drawings. Shop drawings for reinforcing steel may be required which indicate bending diagrams, assembly diagrams, splicing and laps of bars, shapes, dimensions, and details of bar reinforcing, accessories, and concrete cover. Do not scale dimensions from drawings to determine lengths of reinforcing rods.

Reinforcing steel shall conform to ASTM A-615, Specifications for Deformed Billet Steel Concrete Reinforcing, and shall be grade 60. Welded Wire fabric shall conform to ASTM A-185, Standard specifications for welded Steel Wire Fabric for Concrete Reinforcement.
  - l. Vapor Barrier: Vapor barrier material when specified shall be either reinforced Kraft paper or new unplasticized polyethylene film, 6 mils thick minimum.
  - m. Gravel: Gravel when indicated as fill under concrete slabs shall consist of clean crushed stone, crushed gravel, and uncrushed gravel, 3/4 inch maximum size and 0-5 percent passing a No.4 sieve. The gravel shall be placed directly on the subgrade.

### **3.0 CONSTRUCTION**

- a. Subgrade Preparation: The bottom of the excavation or the top of the fill shall be known as the pavement subgrade and shall conform to the lines, grade, and cross sections shown in the plans.
  1. Removal of Unsuitable Material: All soft and yielding material and portions of the subgrade that will not compact readily when rolled or tamped shall be removed and replaced with suitable material.
  2. Compaction: The subgrade shall be brought to a firm and unyielding condition by compacting it to uniform density. Soil should be compacted at or slightly above standard optimum moisture.
  3. Concrete Placement: Concrete shall not be placed on a soft, spongy, frozen, or otherwise unsuitable subgrade. The subgrade shall be moist when concrete is placed.
- b. Forms: Formwork shall be in accordance with ACI 347. Coordinate formwork construction with installation of work of other trades to insure adequate placement of materials, sleeves, inserts, and accessories in proper location.
  1. Formwork Support: The Contractor shall be fully responsible for adequacy of formwork in its entirety. Forms shall support loads they will be required to sustain and shall maintain their dimensional and surface correctness to produce structures required by the drawings. Immediately before the placing of reinforcing, faces of all forms in

contact with the concrete shall receive a thorough coating of a liquid form releasing agent.

2. Neat Excavation for Footings, Form Alignment, and Chamfering Exposed Edges of Concrete: Concrete for footings may be placed in excavations without forms upon inspection and approval. Excavation width shall be a minimum 4 inches greater than indicated. Set forms mortar-tight and true to line and grade. Provide 3/4 inch chamfers on all above-grade exposed joints, edges, and external corners unless otherwise indicated.
3. Removal of Forms: Prevent concrete damage during form removal. After placing concrete, forms shall remain in place for a minimum of 24 hours. In no case shall supporting forms or shoring be removed until members have acquired sufficient strength to support their weight and imposed loads safely.

c. Reinforcement:

1. Placing Reinforcement and Misc. Materials: Provide bars, wire fabric, wire ties, supports, and other devices necessary to install and secure reinforcement. Reinforcement shall not contain rust, scale, oil, grease, clay, and foreign substances that would reduce the bond. Rusting of reinforcement is a basis of rejection if the effective cross sectional area or the nominal weight per foot of the reinforcement has been reduced to less than specified. Remove loose rust prior to placing steel. Tack welding is prohibited.
  2. Reinforcement Protection: The reinforcement shall be protected by the thickness of concrete indicated on the plans. Where not otherwise shown the thickness of concrete over the reinforcement shall be as follows:
    - a. Where concrete is deposited against the ground without the use of forms then not less than three (3) inches.
    - b. Where concrete is exposed to the weather, submerged, or exposed to the ground, but placed in forms then not less than two (2) inches for bars larger than No. 5 and not less than 1-1/2 inches for No. 5 bars and smaller.
  3. Wire Mesh Installation: Install and properly support wire mesh reinforcing within two (2) inches of top of concrete slabs on ground and as otherwise indicated. Lap all joints six (6) inches and wire securely. Extend mesh to within two (2) inches of sides and ends of slabs.
  4. Tolerances: Place reinforcement and secure with galvanized or noncorrodible chairs, spacer, or metal hangers. Use concrete or other noncorrodible material for supporting reinforcement on the ground.
  5. Setting Anchors and Miscellaneous Material: Place and secure anchors and bolts, pipe sleeves, conduits, and other such items in position before concrete placement where possible. Plumb anchor bolts and check location and elevation. Temporarily fill voids in sleeves with readily removable material to prevent the entry of concrete.
- d. Concrete Placement: Place concrete as soon as practicable after the forms and the reinforcement have been inspected and approved. Ready mixed concrete hauled in truck mixers or truck agitators shall be deposited in place within 90 minutes from the time water is added to the mix. Do not place concrete when weather conditions prevent proper placement and consolidation; in uncovered areas during periods of rainfall; or in standing water. Prior to placing concrete, remove dirt, construction debris, water, snow, and ice

from within the forms. Deposit concrete as close as practicable to the final position in the forms. Do not exceed a free vertical drop of three (3) feet from the point of discharge. Place concrete in one continuous operation until placement of the section is completed.

1. Consolidation: Consolidate placed concrete using mechanical vibrating equipment with hand rodding and tamping, so that concrete is worked around reinforcement and other embedded items and into all parts of the forms.
  2. Protection: Protect concrete from physical damage and reduced strength due to weather extremes. In cold weather comply with ACI 306 and in hot weather comply with ACI 305.
- e. Joints: Provide construction, expansion, and control joints as indicated or required. Locate construction joints so as to not impair the strength and appearance of the structure. Place expansion and control joint in slabs on grade to stabilize differential settlement and random cracking.
1. Expansion Joints: Expansion joints shall be located where slabs meet with a vertical wall surface, to isolate fixed objects, at fifty (50) foot intervals unless indicated otherwise and where indicated on the drawings.
  2. Control Joints: Unless otherwise shown, control joints shall be installed at uniform intervals not to exceed twenty (20) feet. Control joints or contraction joints shall be formed by one of the following methods: sawing, forming by hand, forming by premolded filler or using full depth construction joints. Joint depth shall be minimum of 1/4 the slab thickness. Hand formed joints shall have a maximum edge radius of 1/4 inch. Sawing of joints shall begin as soon as the concrete has hardened sufficiently to permit sawing without successive raveling. All joints shall be completed before uncontrolled shrinkage cracking occurs. Joints shall be continuous across the slab, unless interrupted by full-depth premolded joint filler.
  3. Construction Joints: Construction joints, as required, shall be located at control joint locations. The construction joint shall be keyed and bond between successive pours shall be broken with curing compound.
- f. Waterstops: Waterstops in joints, where indicated, shall be polyvinylchloride of types as shown on the drawings.
- g. Finishes of Formed Surfaces: Concrete surfaces which will be exposed to view in the completed work, including tops of walls and curbs, shall be given a smooth-rubbed finish. Provide on newly hardened concrete within 24 hours following form removal. Wet surfaces and rub with an abrasive tool to produce uniform color and texture. Use only the cement paste drawn from the concrete rubbing process.
- h. Concrete Finishing: After concrete has been struck off and consolidated, a bullfloat may be used to obtain the proper contour, grade, and elevation before bleedwater appears. Bullfloat use shall be confined to a minimum. Permit concrete to attain a set sufficient for floating and supporting the weight of the finisher and equipment. If bleedwater is present prior to floating the surface, drag the excess water off or remove by absorption with porous materials. Do not use dry cement to absorb bleedwater. Provide a broomed finish for exterior walks, platforms, patios, and ramps, unless otherwise indicated. Provide a floated finish, then finish with a flexible bristle broom. Permit surface to harden sufficiently to retain the scoring or ridges. Broom transverse to traffic or at right angles to the slope of the slab.

1. Pavement: After screeding, float the concrete longitudinally. Use a straight edge to check slope and flatness; correct and refloat as necessary. Obtain final finish by a burlap drag. Drag a strip of clean, wet burlap across the slab to produce a fine, granular, or sandy textured surface without disfiguring marks. Round edges and joints with an edger having a radius of 1/8 inch.
2. Concrete Walks: Provide four (4) inches thick minimum. Provide contraction joints spaced every 5 linear feet unless otherwise indicated. Cut contraction joint one (1) inch deep with a jointing tool after the surface has been finished. Provide 1/2 inch thick transverse expansion joints at changes in direction where sidewalks abuts curb, steps, rigid pavement, or other similar structures; space expansion joints every fifty (50) feet maximum apart. Provide walks with a broomed finish. Provide a transverse slope of 1/4 inch per foot.
3. Curbs: Curbs shall be constructed as indicated on the drawings and in accordance with Section 720 of the SCHD SSHC. Provide contraction joints spaced every ten (10) feet maximum unless otherwise indicated and at the beginning and ending of radii. Cut contraction joints 3/4 to 1 inch deep with a jointing tool after the surface has been finished. Provide expansion joints 1/2 inch thick and spaced every 100 feet maximum unless otherwise indicated. Provide a smooth rubbed finish.
- i. Curing: Concrete shall be cured by protecting it from loss of moisture, rapid temperature change, and mechanical injury for at least three days after placement. After all free water has disappeared from the surface, a liquid membrane-forming compound or other approved curing material shall be uniformly sprayed on all exposed surfaces. Rate of application shall be in accordance with manufacture's recommendations. Surfaces to receive finishes set in Portland cement setting beds shall be covered with polyethylene or reinforced Kraft paper, or with sand. Do not use spray on curing compound. Lap Kraft paper, and keep weighted down to prevent evaporation. Keep sand moist.
- j. Opening to Traffic: Pavement shall be closed to traffic for at least three full days or until such time that the minimum compressive strength of the concrete is at least 75% of its design strength.
- k. Testing: The Contractor shall be responsible for sampling and testing of concrete as necessary to meet the minimum strength and material requirements of these specifications, as directed by the Engineer. Testing shall be performed by a certified independent testing laboratory.

END OF SECTION

LAWNS AND GRASSING  
SECTION 02930

RELATED DOCUMENTS: Attention is directed to related sections of the Specifications, as they pertain to the guidelines, materials, and methods described in this section. Also, the General Provisions and Special Provisions of the Contract shall apply to all Sections of the Work.

**1.0 SCOPE OF WORK:**

- a. General Requirements: Provide seedbed preparation, topsoiling, liming, fertilizing, seeding, sodding, and mulching of all newly graded finish earth surfaces, unless indicated otherwise, and at all areas inside of outside the limits of construction that are disturbed by the Contractor's operations.

**2.0 MATERIALS:**

- a. Fertilizer and Lime: Deliver materials to the site in original, unopened containers bearing the manufacturer's chemical analysis, name, trade name, trademark, and indication of conformance to State and Federal laws.
- b. Fertilizer: Commercial grade, free flowing, uniform in composition granular fertilizer shall contain a minimum percentage by weight of 10 percent nitrogen, 10 percent available phosphoric acid, and 10 percent potash. Apply fertilizer at the rate of 1000 pounds per acre.
- c. Lime: Lime shall be commercial agricultural limestone containing a minimum of 94 percent of total carbonates, 80 percent calcium, and 14 percent magnesium. Agricultural limestone shall be incorporated into the soil at the rate of 2000 pounds per acre.
- d. Seed: Deliver seed to the site in original sealed packages bearing the producer's guaranteed analysis for percentages of mixture, purity, germination, weedseed content, and inert material. Label in conformance with USDA Federal Seed Act and applicable State seed laws. Wet moldy, or otherwise damaged seed will be rejected. Seed shall be State-certified seed and of the latest season's crop. Mix seed on site according to the following mixtures by weight:

VARIETY	%GERMINATION	%PURITY	NOXIOUS WEEDS
Kentucky 31 Fescue	90%	98%	0%
Annual Rye	90%	98%	0%
Bermuda (hulled), Spring	90%	98%	0%
Bermuda (unhulled), Fall	90%	98%	0%

SEASON	VARIETY	RATE
Summer (May1-Aug1)	Common Bermuda (hulled)	3 lbs/1000 SF (130 lbs/Ac)
Fall / Winter (Sep1-Feb1)	Common Bermuda (unhulled)	3 lbs/1000 SF (130 lbs/Ac)
	Kentucky 31 Fescue	7 lbs/1000 SF
	Annual Rye	2 lbs/1000 SF
Spring (Feb1-May1)	Common Bermuda (hulled)	3 lbs/1000 SF
	Kentucky 31 Fescue	5 lbs/1000 SF
	Annual Rye	5 lbs/1000 SF

- e. Mulch: Free from noxious weeds, mold, or other deleterious material. Provide wood cellulose fiber mulch when hydroseeding.

- f. Straw: Stalks from oats, wheat, rye, barley, or rice. Furnish in air-dry condition and of proper consistency for placing with commercial mulch blowing equipment or by hand.
- g. Wood Cellulose Fiber: Processed to contain no growth or germination-inhibiting factors and dyed an appropriate color to facilitate visual metering of material's application. Composition on air-dry weight basis: 9-15 percent moisture, pH range from 3.5 to 5.0.
- h. Emulsified Asphalt Adhesive: ASTM D-977, Grade RS-1. Use with straw mulch.
- i. Water: Suitable quality for irrigation.
- j. Erosion Control Matting: Provide as specified in Section 02270 - "Erosion Control".

### **3.0 SEEDING:**

- a. Storage and Handling: Store lime, fertilizer, and seed in dry locations away from contaminants. Protect seed from drying out. Do not drop or dump materials from vehicles.
- b. Soil Preparation: At the completion of rough grading, spread topsoil over areas to be seeded or as indicated, to a minimum thickness of 4 inches. Topsoil shall be the material stripped from the site during the grading operations. Do not spread topsoil when frozen or excessively wet or dry. Areas not receiving topsoil shall be loosened to a minimum depth of 4 inches before agricultural lime, fertilizer or seed is applied. Lawn areas shall be fine graded to a smooth, positively draining slope, removing all stones over one inch.
- c. Seeding: Seed shall be sown within 24 hours following the application of fertilizer and lime, and preparation of the seedbed. Do not seed when the ground is muddy, frozen, snow covered, or in any unsatisfactory condition for seeding. If special conditions exist that may warrant a variance in the above seeding dates or conditions, submit a written request to the County Engineer stating the special conditions and proposed variance.

Sow seed with approved sowing equipment using one or a combination of the following methods at the rate of 130 pounds per acre. Sow 1/2 the seed in one direction, and sow the remainder at right angles to the first sowing. For Drill, Broadcast, and Drop Seeding, incorporate fertilizer and lime into the soil to a minimum depth of 6 inches prior to seeding. For Hydroseeding, apply liquid fertilizer in amounts sufficient to promote the specified stand of turf and apply lime manually during subgrade preparation.

- d. Drill Seeding: Use cultipacker seeders or grass seed drills. Drill seed uniformly to a maximum depth of 1/4 inch in clayed soils and 1/2 inch in sandy soils. Cover seed by spiketooth harrow, cultipacker, or other approved devices.
- e. Broadcast Seeding and Drop Seeding: Use Broadcast or Drop Seeders. Cover seed uniformly to a maximum depth of 1/4 inch in clayey soil and 1/2 inch in sandy soils. Cover seed by spike tooth harrow, raking, or other approved devices. Immediately after seeding, firm entire area, except for slopes in excess of 3 to 1, with a roller not exceeding 90 pounds for each foot of roller width.
- f. Hydroseeding: Mix seed, fertilizer, and wood cellulose fiber in required amount of water to produce a homogeneous slurry. After seed, water, and fertilizer have been thoroughly mixed, add 200 pounds of wood cellulose fiber per acre (dry weight) and apply the slurry. Seed shall not remain in water containing fertilizer for more than one hour prior to application, unless otherwise approved. Keep liquid fertilizer agitated during application. Immediately following application of slurry mix, make separate application of wood cellulose mulch at the rate of 800 pounds (dry weight) per acre. When hydraulically sprayed on the ground, material shall form a

blotterlike cover impregnated uniformly with grass seed. Cover shall allow rainfall of applied water to percolate to underlying soil.

- g. Mulch: Except when hydroseeding, spread straw mulch evenly at the rate of 1.5 tons per acre. Anchor by crimping mulch with a serrated disc or by spraying asphalt emulsion on the mulched surface at the rate of 5 gallons per 1000 square feet. Take precautionary measures to prevent asphalt materials from marking or defacing structures, pavements, utilities, or plantings and do not use asphalt near pedestrian traffic areas.
- h. Erosion Control Matting: Install as specified in Section 02270 - "Erosion Control".
- i. Protection of Seeded Areas: Immediately after seeding, protect the area against traffic or other use by erecting barricades, as required, and placing approved signs at appropriate intervals until final acceptance.

#### **4.0 SODDING:**

- a. Preparation of Sodbed: Prepare sodbed as specified for Soil Preparation and apply fertilizer and lime as specified.
- b. Laying of Sod: Place first line of sod along straight walk, edging, building face, or staked string, and butt following courses closely to preceding courses, taking care that lateral joints do not coincide. Place boards over sod for foot traffic and tamp all pieces to insure total sod contact with sodbed. Lightly topdress with topsoil and/or sand and work into joint between sod pieces using a broom or mat. Thoroughly soak sodded area with water. After roots have developed sufficiently to hold sod firmly in place, allow surface to become quite dry and then apply additional topdressing of topsoil or sand to true the lawn surface. The sod shall then be rolled with a lawn roller to finish surface.
- c. Interim Maintenance: Perform all maintenance operations necessary to properly care for sodded areas until they can be maintained by the County without danger of dislodgment or other significant damage to sod pieces.
- d. Replacement of Sod: All portions of sodded areas shall give evidence of development into a smooth, homogeneous lawn of the material specified and shall have roots sufficiently developed to hold sod pieces in place during County maintenance operations. Sod which does not properly root and develop into a homogeneous lawn shall be replaced at no extra cost using the procedures specified above.

#### **RESTORATION, ESTABLISHMENT, & FINAL INSPECTION**

- a. Restoration: Restore to original condition existing lawn areas which were damaged during grassing operations. Keep at least one paved pedestrian access route and one paved vehicular access route to each building clean at all times. Clean other paving when work in adjacent areas is complete.
- b. Establishment Period: The establishment period will be in effect until the seeded and sodded areas are mowed three times. During the establishment period, the Contractor shall mow the seeded and sodded areas to an average height of 2 inches whenever the average height of grass reaches 4 inches. The Contractor shall remove excess clippings, eradicate weeds, water, fertilize, overseed, and perform other operations necessary to promote growth.
- c. Final Inspection and Acceptance: At the end of the establishment period, final inspection will be made upon written request at least 10 days prior to the anticipated date. Final acceptance will be based upon a satisfactory stand of grass, defined as 95 percent ground cover of the

specified species. The Contractor will repair any bare spots over 2 inches square due to uneven seed distribution, drought specified planting dates.

- d. Reseeding and Repair: Any areas that require reseeding and/or refertilization will be designated by the County Engineer. Any damage following seeding or if seedlings are destroyed, the portion affected shall be repaired to re-establishment condition and grade of the soil prior to original seeding, and then reseeded following the above specifications.

END OF SECTION